



JOINT TASK FORCE J3/J4:
DIRECTORATE OF MOBILITY FORCES

GRADUATE RESEARCH PAPER

Philip M. Calvano, Major, USAF

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Degree of Masters of Air Mobility

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Abstract

This paper addresses how to strengthen mobility planning and execution in the Joint Task Force (JTF). It proposes a JTF J3/J4 directorate that manages all assigned and attached Defense Transportation System (DTS) mobility forces as well as those theater assigned transportation forces. The proposed JTF J3/J4 combines the current Director of Mobility Forces (DIRMOBFOR:AMC), Navy Component Commander (NAVCC:MSC) and Military Traffic Management (MTMC) Element with the Joint Movement Center (JMC) from the JTF J4 staff. Examples are provided to expand on JTF J3/J4 decision making and their applicability to the theater CINC's staff. Briefly discussed is the impact of a U.S. Transportation Command (USTRANSCOM) expanded Global Reach Laydown Package (GRLP) which pre-positions airlift, sealift and surface transportation support requirements in order to develop a flexible en route structure.

Integrating a JTF J3/J4 and a theater CINC J3/J4 provides an excellent opportunity to simplify our wartime logistics infrastructure. A simplified logistics infrastructure increases the chances for operational success and increases our global efficiency.

JOINT TASK FORCE J3/J4:

DIRECTORATE OF MOBILITY FORCES

I. Introduction

Transportation enables the joint campaign to begin and continue. The projection of power relies upon the mobility inherent in air, naval, and land forces, supported by the defense transportation system. Transportation at the strategic and operational levels of war is a complex operation. It can best be served by a single, sound deployment concept that reflects en-route and theater constraints and undergoes minimum rapid changes. (Joint Publication 1, 1995: IV-8)

DoD Joint Publication 1 establishes the foundation for the U.S. military to fight as a joint team. Combat forces require mobility forces to transport their personnel and materiel throughout the world. Different operations, humanitarian and combat, demand rapid deployment and ongoing sustainment until the mission is complete. In the 1990s, U.S. overseas military presence decreased substantially at a time when contingency requirements and subsequent deployments only increased. This created an era of expeditionary forces. Deploying expeditionary forces from the continental U.S. (CONUS) requires a sound inter-modal, inter-service deployment concept. This paper highlights the influences of these factors on a joint strategic and tactical transportation directorate: Joint Task Force (JTF) J3/J4.

In researching this topic, no illustration appeared in any literature describing the relationship between the theater Commander-In-Chief's (CINC's) transportation system and the three U.S. Transportation Command (USTRANSCOM) components: Air

USTRANSCOM acts as a transportation component integrator. As such, joint publications and public law bound the strategic and tactical interface but still leave room for process improvement.

USTRANSCOM's three transportation components have each developed a formal transportation authority on the JTF Staff: Director of Mobility Forces (DIRMOBFOR-AMC), Naval Component Commander (NAVCC-MS), Military Transportation Management Command (MTMC Element). Figure 3 illustrates the command relationship between the transportation components and the JTF Commander (JTF/CC). In the current structure, the DIRMOBFOR specifically:

1. Directs the integration of inter-theater air mobility support provided by USTRANSCOM-assigned mobility forces.
2. Coordinates the tasking of USTRANSCOM inter-theater air mobility forces (air and ground) attached to the JFC.
3. Directs the tasking of intra-theater air mobility forces (air and ground) attached to the JFC.
4. Coordinates with the Air Operations Center (AOC) director to ensure all JTF air mobility operations are fully integrated with the Air Tasking Order (ATO) cycle and de-conflicted with all other air operations (AFDD 2, 58).

The DIRMOBFOR position is unique to AMC. Even though the name itself conjurs up an image of a director of all mobility forces, not just mobility air forces. The concept of expanding the service specific function of the DIRMBFOR into all modes of transportation is worthy of exploration. This logic leads to a proposal for a joint J3/J4 directorate that would combine all modes under a theater transportation-clearing house.

Research Question

What transportation inefficiencies exist within today's various JTF organizational structures and can they be improved? This paper discusses the current mobility environment by examining USTRANSCOM's relationship to different JTF organizational structures with respect to the following investigative questions:

1. Why does a JTF need a DIRMOBFOR and why was it originally placed on the JTF staff?
2. How has the DIRMOBFOR's role changed and what benefit does the current DIRMOBFOR provide to the JTF staff?
3. What would a JTF J3/J4 staff directorate look like and how would its addition strengthen the JTF?

Scope

Several authors advocate the reapportionment of tactical airlift from theater CINCs to AMC or all transportation resources to USTRANSCOM. The delineation between strategic and tactical ownership of transportation resources is beyond the scope of this paper. This research paper addresses the short-term implementation of a JTF J3/J4 structure and a theater CINC J3/J4 staff.

Assumptions

The proposal for a JTF J3/J4 directorate provides an indefinite and temporary solution without a force structure or public law change in order to achieve optimal Defense Transportation System (DTS) performance. From a logistics perspective, this

paper follows two intuitive logistics principles of Dr. Donald J. Bowersox as the basis for all DTS operational processes:

1. Commanders must integrate logistics considerations into operational plans.
2. A single logic must guide physical distribution throughout the system.

(Bowersox, 1998: 12-16)

Assumption one requires DTS components to be fully integrated with the JTF J3, J3/J5, and J5 in order to provide inputs to operational plans before the completion of execution planning. AMC has developed a successful "work-around" to this problem with the development of the DIRMBOFOR.

Assumption two relates to the handoff of personnel and cargo from the POD (USTRANSCOM) to the destination (theater CINC) with consideration of reception, sustainment, onward movement, and integration (RSO&I). Presently, strategic DTS planners must intuitively know when to ask RSO&I questions in order to meet POD arrival dates, provide sufficient RSO&I and theater transportation lead-times. In contrast, providing individual DTS components to the JTF and having an AMC DIRMBOFOR equal to the AOC Director dilutes Dr. Bowersox's concept of a single logic for physical distribution. AMC, MSC, and MTMC plan transportation in order to exploit their unique transportation advantage often at one another's expense. Currently there is no single point or theater organization to mirror the inter-modal-synergies of USTRANSCOM. Therefore, a single logic is not prevalent in today's system.

Preview of Remaining Chapters

Chapter two provides a generic background into the unified command structure. It provides a thumbnail sketch of USTRANSCOM and describes in detail timed phased force deployment data as it relates to the joint operations planning and execution system (JOPES). It concludes with a brief discussion on the role of the supported CINC.

Chapter three discusses current joint publications and the placement of the DIRMOBFOR under the JFACC. It expands on the DIRMOBFOR's control of all theater and strategic airlift assets in theater. Finally, it illustrates the strategic and tactical placement of surface and sealift transportation organizations.

Chapter four discusses the difficulties in using chapter two's organizational structures and command relationships in order to execute operations with respect to our two assumptions. While no formal documentation exists discussing organizational problems, the mere fact JTF and DIRMOBFOR organizational structures have had substantially different appearances in recent operations indicates a situational dependency and personality driven integration into the JTF staff. Chapter four introduces several different JTF organizational structures without specific analysis of their decision making and execution processes. The key point surrounds the fact that each organizational change presents a learning curve and may result in transportation delays and sub-optimal mode selection.

Chapter five addresses how to strengthen mobility planning and execution in the JTF and proposes that the JTF J3/J4 manage all assigned and attached DTS mobility forces. The proposed JTF J3/J4 combines the current DIRMOBFOR, MSC and MTMC components and the Joint Movement Center (JMC) from the JTF J4 staff. Chapter five

also explains how a J3/J4 will improve decision making on the theater CINCs staff and the JFC's staff by using an expanded Global Reach Laydown Package which adds MSC and MTMC port operators to AMC's current structure.

II. Background

To gain a better understanding of the JTF's role in coordinating contingencies, this chapter contains information on the inter-relationships of the global command structure.

Unified Commands

The unified command structure places U.S. military personnel and resources under a single Commander-In-Chief (CINC) based on geographic or functional area of responsibility. USTRANSCOM is one of nine unified commands in the U.S. military structure. Figure 2 depicts lists all nine of the unified commanders.

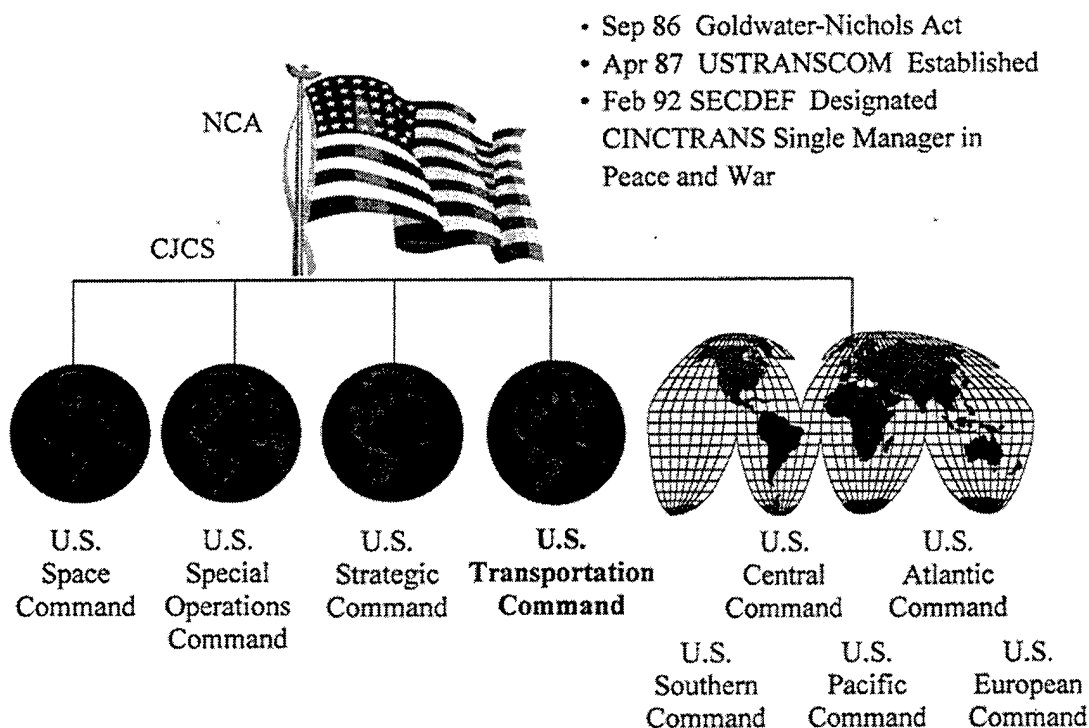


Figure 2. Unified Command Structure

(Coolidge, 1999)

USTRANSCOM

When first established in 1987, USTRANSCOM managed transportation in wartime only. In February 1992, USTRANSCOM took on increased responsibilities as the Department of Defense's (DoD's) single manager for air, land, and sea transportation in time of peace and war. USTRANSCOM now has the global responsibility to support each unified commander. In this capacity, USTRANSCOM serves as an integrator of transportation resources while its three components, Military Traffic Management Command (MTMC), Military Sealift Command (MSC), and Air Mobility Command (AMC) execute actual movements (AMMP, 1998: 2-4).

Timed Phased Force Deployment Data (TPFDD)

Theater CINCs use the Joint Operations Planning and Execution System (JOPES) to develop deliberate plans and identify support and augmentation forces required for defense against known threats. Deliberate planning provides a good start for efficient execution planning and the deliberate plans cycle easily integrates into the federal programming and budgeting system. Deliberate planning produces a Concept Plan (CONPLAN), without validated force movement data, or a completed Operation Plan (OPLAN) with validated movement data. Validated movement data provides USTRANSCOM with cargo and passenger data, transportation mode, destinations and delivery times. Unanticipated crisis limit available planning time and necessitates the use of the Crisis Action Planning (CAP) process in order to develop an executable campaign plan or operational order (OPORD). After the campaign plan or OPORD is developed,

validating the force movement list becomes USTRANSCOM's immediate challenge (Atkins and others, 1997: Ch 3)

The global movement of support and augmentation forces remains complex. If transportation use is not economical, future availability becomes threatened. Validating the time phased force deployment data (TPFDD) requires extensive coordination between service components, the supported CINC, USTRANSCOM, and the transportation component commands. The supported CINC builds and maintains his TPFDD in the Global Command and Control System (GCCS). GCCS is a secure automated system designed to support JOPES. JOPES is a great system for collaborative planning, but it is time consuming. The deliberate planning process takes 18 to 24 months. Key players in JOPES are the supported and supporting CINCs. A supported CINC prepares OPLANS, campaign plans, or operation orders in response to the requirements of the Chairman of the Joint Chiefs of Staff (Joint Publication 1-02, 1999). A supporting CINC provides augmentation forces or other support to a supported commander and develops a supporting plan. Supporting organizations include the designated combatant commands and other Defense agencies as appropriate (Joint Publication 1-02, 1999). For example, in OPERATION DESERT STORM, U.S. Central Command (USCENTCOM) was the supported CINC and tasked USTRANSCOM to provide airlift, U.S. Atlantic Command (USACOM) to provide fighter aircraft, etc.

Supported CINCs grant authorized users TPFDD access in GCCS. Some users have read-only permission and some have read/write permissions. Before their restructuring in the early 1990s, Numbered Air Forces (NAFs) commanded their subordinate wings and tasked them directly. Major commands (MAJCOMs) granted

NAFs limited write permissions by controlling unit line numbers (ULNs). NAFs were responsible for populating the TPFDD. Each ULN represented the movement of one or more person and/or things from origin to destination. Since NAFs owned strategic and tactical airlift, the airlift seam was nonexistent. Even though MAC owned both the strategic and tactical airlift components, the joint structure as it existed, still created an inter-modal void.

Supported CINC

The supported CINC tasks each of his service component's MAJCOM equivalents and the other eight supporting CINCs to provide the specific forces necessary to satisfy operational plans. Today's NAFs do not possess the manpower or command and control infrastructure required to populate the TPFDD as a prerequisite to the deployment of support and augmentation forces. In today's Air Force, MAJCOMs populate the TPFDD and perform all TPFDD maintenance. Each supporting CINC validates his portion of the overall TPFDD with the supported CINC and reviews that portion or slice of the modified TPFDD. Once satisfied the TPFDD is complete and meets the force requirements, the supported CINC validates transportation feasibility with USTRANSCOM for the required combat and support forces. While transportation feasibility assessment usually occurs incrementally, this action marks the supported CINC's formal TPFDD validation. This validation is crucial for it provides USTRANSCOM with accurate information to most effectively and efficiently match transportation assets against forces designated for movement (Atkins and others, 1997: Ch 3).

As the supported CINC validates the TPFDD, he sends the validated portion to USTRANSCOM. A supported CINC may request specific modes of transportation. USTRANSCOM will conduct an automated and detailed transportation feasibility analysis based on such factors as size, weight, destination, etc. For example, a supported CINC requests a cargo airlift movement. This cargo is destined for a seaport of debarkation with a latest arrival date (LAD) 45 days into the future. The transportation feasibility analysis would flag this movement since sealift appears to be the most appropriate mode of transportation. USTRANSCOM should not unilaterally change this mode without coordinating with the supported CINC. Once the transportation mode (air, sea, or surface) is determined, requirements become available to the appropriate USTRANSCOM component for transportation scheduling. This is how AMC, MSC, and MTMC independently schedule transportation movements into strategic air and seaports of debarkation (Atkins and others, 1997: Ch 3).

Figure 3 illustrates this relationship. Any delays in the supporting components providing their requirements to the supported CINC's validator or delays between the supported CINC's validator and USTRANSCOM's validator will compress the transportation component's planning lead-time and possibly cause delivery delays to ports of debarkation.

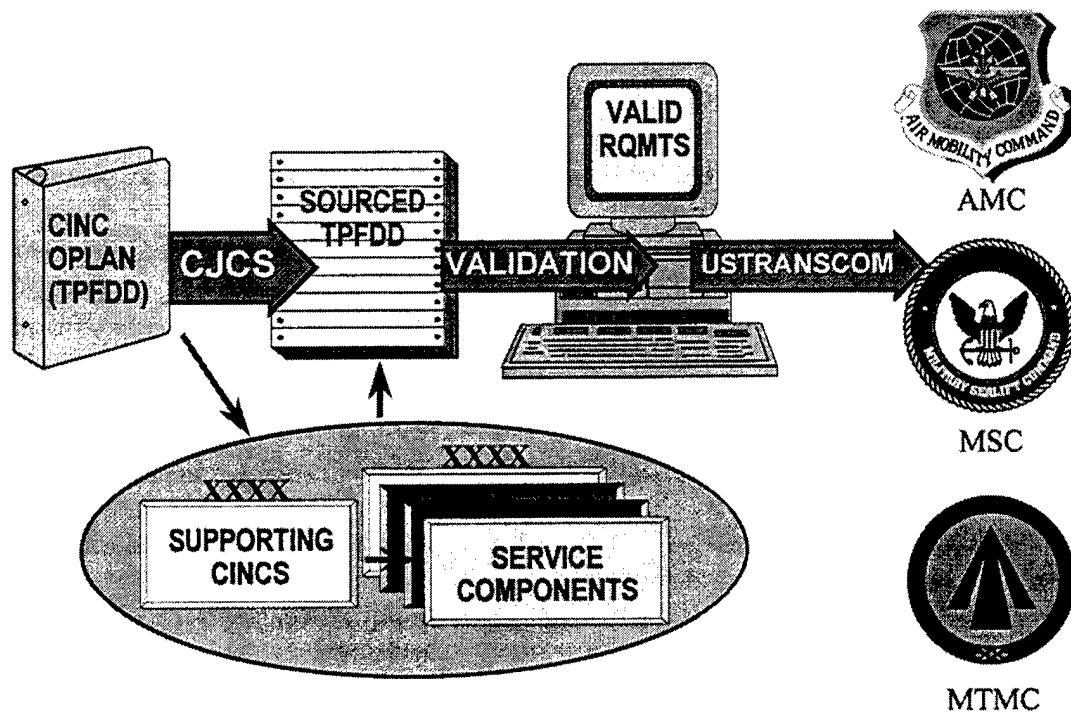


Figure 3. Transportation Requirements Flow

(Coolidge, 1999)

While a validated TPFDD is a major hurdle in the war effort, the work has just begun. Now the DTS and theater transportation organizations must move forces and materiel from their origin to final destination. The "mass" principal of warfare requires forces to arrive in the proper sequence while maintaining unit integrity. The U. S. Army masses its forces before battle through a concept of Reception, Staging, Onward Movement and Integration (RSO&I). This careful assembly of forces in theater runs counter to the strategic airlift philosophy of "mission complete." AMC considers a "mission complete" when the aircraft delivers its load to the APOD. A JTF J3/J4 directorate would be on hand to more clearly define mission requirements.

III. Historical Role of the DIRMOBFOR

Chapter Overview

Following the end of the COLD WAR, AMC suffered through a reduction in en route support and a consolidation of overseas forces to the CONUS. During this time, AMC restructured their command and control structure in order to adapt to the reduced role of the Numbered Air Force (NAF) who no longer control operations in their part of the world. In order to provide strategic airlift in this environment, AMC establishes an air bridge half way around the world. This takes time and AMC rarely has an over abundance of time in a crisis (Rapid Establishment of U.S. Bases is Critical, 1992).

While the JTF remains the central focus, the Director of Mobility Forces (DIRMOBFOR) and the reasons it moved out from under the Joint Air Operations Center (JAOC) deserve investigation. Discussions conclude with the transportation community's organizational structure after the activation of USTRANSCOM, as well as the overseas transportation component reductions.

Original Placement of the DIRMOBFOR under the JAOC

The placement of today's DIRMOBFOR in the joint task force (JTF) differs from its original placement in the JAOC. When the Air Force first considered integrating into a JTF, the focus was clearly on war fighting. The air component was organized to prosecute an air campaign and meet Joint Forces Commander (JFC) objectives. When the Department of Defense (DOD) reorganized under the Goldwater-Nichols Defense Department Reorganization Act of 1986, AMC's predecessor, Military Airlift Command

(MAC), had combatant command (COCOM) of inter and intra-theater Air Force airlift. Since the Commander-In-Chief, MAC (CINCMAC) commanded all of these forces, CINCMAC designated a commander of airlift forces (COMALF) who reported to the Commander, Air Force Forces (COMAFFOR) with operational control (OPCON) of theater airlift. When COCOM of intra-theater airlift was transferred to theater CINCs (via Title 10 USC: section 164), MAC lost COCOM of theater airlift. Subsequently, the COMALF organization was no longer appropriate on the theater CINC's staff. Later, MAC strategic airlift resources and some air refueling resources from Strategic Air Command (SAC) merged to form AMC (Devereaux, 1994: 11).

From a logistics standpoint, this challenged AMC. How can AMC integrate strategic airlift considerations into unified commander's operational plans? How can AMC implement a single logic to guide physical distribution throughout the strategic and theater distribution systems (Bowersox, 1988)?

One of the MAF's most difficult challenges is meshing theater-assigned and attached mobility forces with USTRANSCOM-assigned mobility forces. Proper employment of air mobility forces is dependent upon establishing a standardized set of tactics, techniques, and procedures that must be followed for the greatest effect in a resource constrained environment (AFDD 2-6, 1998: 24).

The DIRMOBFOR concept partially solved these problems in the short run. AMC could no longer command theater airlift forces. However, the DIRMOBFOR could gain OPCON over them. United States Air Forces Europe (USAFE) fields the most robust DIRMOBFOR organization. The actual DIRMOBFOR normally deploys from a continental U.S. (CONUS) AMC base with the bulk of DIRMOBFOR support organizations residing in theater. Acting as a forward element of the Tanker Airlift

Control Center (TACC), the DIRMOBFOR organization integrates both strategic and tactical airlift logistics considerations into European Command's (EUCOM's) operational plans. A single logic guiding physical distribution via strategic and tactical airlift resides in AMC's Tanker Airlift Control Center (TACC) and EUCOM's DIRMOBFOR organization when combined. Many logisticians agree the title, DIRMOBFOR, is a misnomer since this organization deals only with air mobility and does not address strategic or tactical surface and sealift.

While many military leaders can agree on the DIRMOBFOR's duties, determining where the DIRMOBFOR fits into the JTF organizational structure proves more difficult. Extracts from Air Force Doctrine Document 2 (AFDD 2) provide the recent history and logic behind the various JTF organizational structures. AFDD 2 is the capstone document of Air Force operational doctrine and describes how our Air Force organizes and employs aerospace power throughout the spectrum of conflict at the operational level. It introduces the role of the Commander, Air Force Forces (COMAFFOR) and the use of an air operations center (AOC) as the "nerve center" behind all aerospace operations (AFDD 2, 1998: vii-ix).

Expanding on and superseding the "*Presentation of USAF Forces*", known colloquially as the "Little Red Book," AFDD 2 presents recommendations for organizing and operating Air Force forces afield; as with any doctrine, it is authoritative, but not directive. AFDD 2 describes the best ways to organize the Air Force. Regardless of the size of an operation, deployed U.S. Air Force forces should establish an AOC as a command mechanism for internal control of U.S. Air Force forces and for

linkage to the JFC. This mechanism will be a appropriately sized and tailored for the operation at hand (AFDD 2, 1998: vii-ix).

With the Air Force focusing primarily on the AOC, airlift resources were employed as a service weapon system instead of a national transportation asset. Before the establishment of the DIRMOBFOR, airlift resources resided under the AOC primarily to support the air campaign. The A4 (Air Component Logistics Directorate) had sole responsibility for intra-theater Air Force airlift. Air Mobility Command (AMC) was responsible for inter-theater airlift only. By making the AOC the nerve center behind aerospace operations, sub-optimizing organizational layers developed between the DIRMOBFOR and the JFC. The establishment of the DIRMOBFOR distinguished mobility air force (MAF) functions from those of the combat air force (CAF). Figure 4 illustrates the AFDD 2 recommended notional JTF with the COMAFFOR as the JFACC.

While logic dictates a JTF needs someone familiar with inter-modal strategic and tactical mobility, JFCs may not know where his DIRMOBFOR will fit on his staff until he determines what the individual DIRMOBFOR can do. Since Joint Publications do not restrict a JFC's authority, JFC's have the latitude to structure their JTF in any manner necessary to accomplish the JTF's mission. The following contingencies illustrate several permutations where the DIRMOBFOR was placed in a rapidly formed, ad-hoc structure due to external mission requirements and internal JFC criteria.

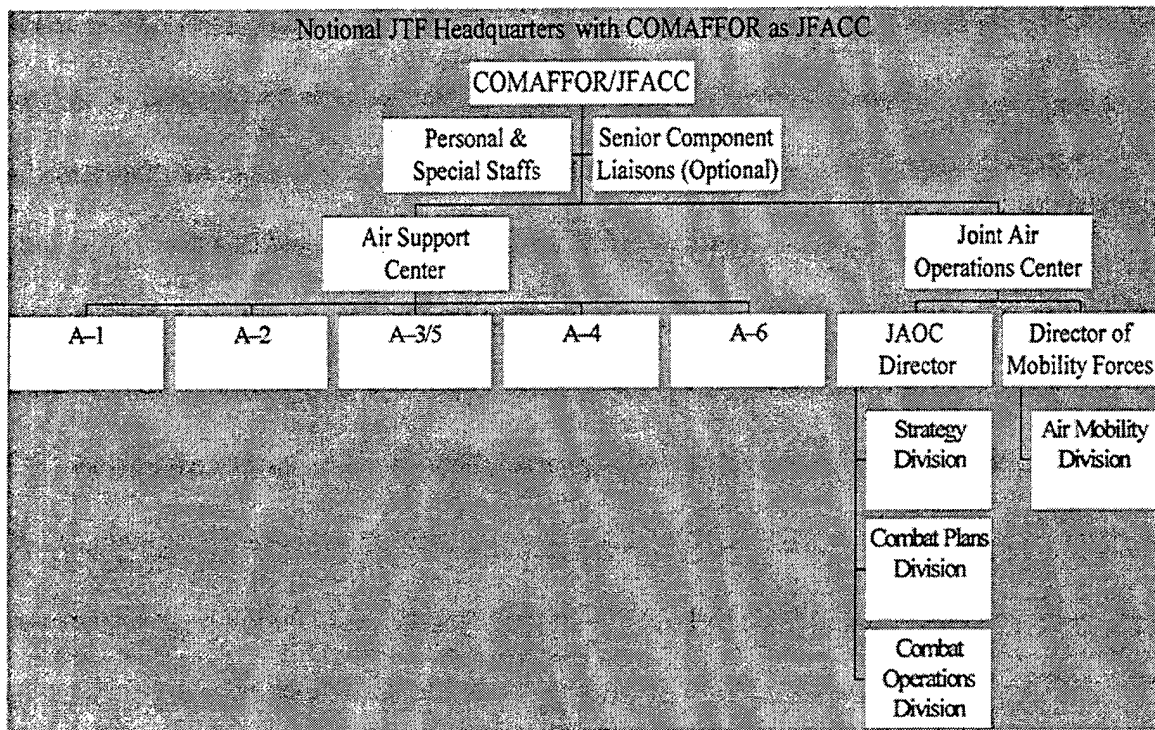


Figure 4. Notional JTF Headquarters with COMAFFOR as JFACC
(AFDD2, 1988)

Operation JOINT ENDEAVOUR/GUARD (OJE/G)

In response to the Dayton Agreement the North Atlantic Treaty Organization (NATO) Implementation Force (IFOR) deployed and was to be in place for a period of approximately one-year. IFOR would remain under the control of the North Atlantic Council ("NAC") through the NATO chain of command (General Framework Agreement for Peace in Bosnia and Herzegovina, 1999).

Figure 5 depicts the command and control structure established for OJE/G. The combined or multinational flavor of this operation provided additional challenges. The Regional Air Mobility Control Center (RAMCC) was collocated with Combined Air Operations Center (CAOC) in Vicenza, Italy. The CAOC developed the Air Tasking

order (ATO) and the RAMCC managed theater airlift. AMC controlled strategic airlift from Scott AFB, IL and used Ramstein and Rhein-Main Air Bases in Germany as the primary APODs. Ramstein and Rhein Main represented the tactical and theater airlift seams. A Joint Movement Control Center (JMCC), established in Zagreb, Croatia, de-conflicted movement priorities. Taszar Air Base Hungary became an intermediate staging base for Reception Staging Onward Movement and Integration into Tuzla Air Base, Bosnia-Herzegovina. As these organizations matured, they became quite effective. However, few of those awaiting airlift will deny IFOR was plagued with transportation coordination problems in the early weeks of the deployment.

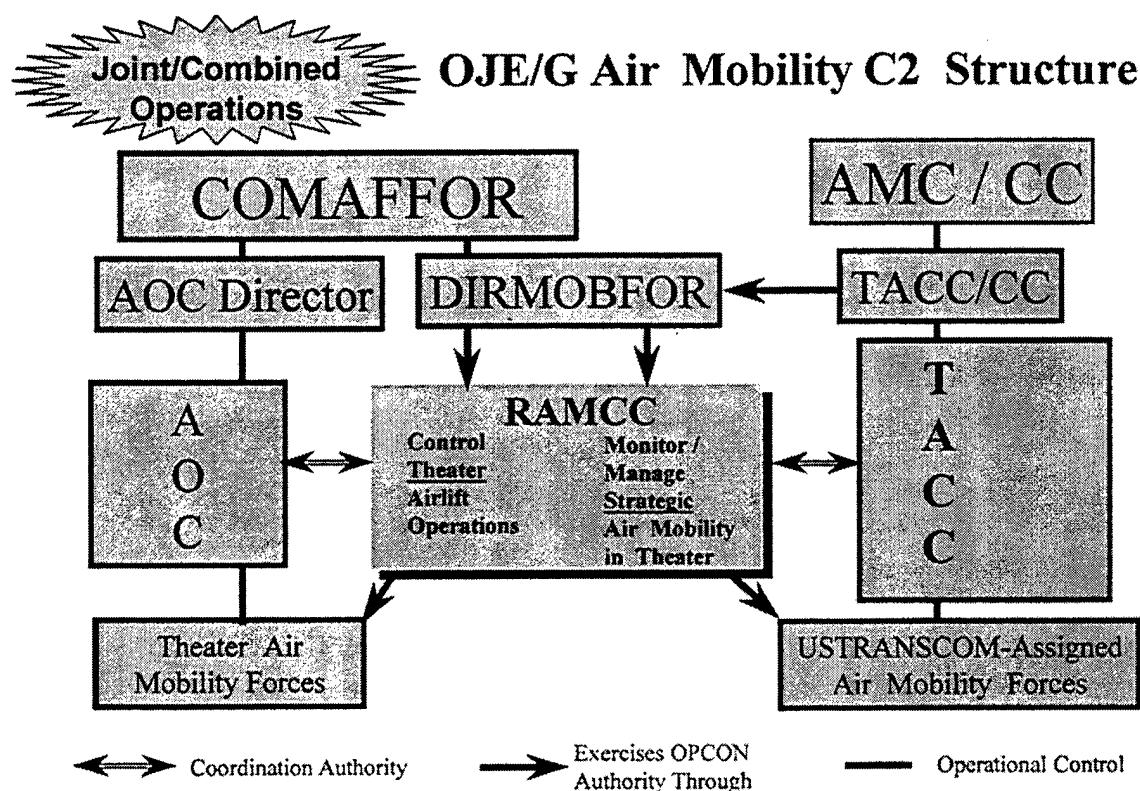


Figure 5. OJE/G Air Mobility C2 Structure

(Coolidge, 1999)

USTRANSCOM, United States Army Europe (USAEUR) and United States European Command (USEUCOM) were unable to satisfactorily monitor unit closures into theater from CONUS. Cargo with theater destinations in Bosnia-Herzegovina, Croatia, or Hungary actually went to either Rhein-Main or Ramstein Air Bases. This strategic lift cargo was then trans-loaded for further onward movement to the theater without coding the intermediate stop in the TPFDD. This caused a loss of in-transit visibility (ITV) (Trans-loading Strategic Airlift Requirements and ITV, 1996).

In order to explain the next coordination problem associated with strategic and tactical airlift movements in the TPFDD a brief explanation of AMC's en route system is required. The AMC en route structure (ERS) supports air mobility forces worldwide. In place forces ensure aircraft are maintained, crews are rested, and passengers and cargo are properly handled. Key locations serve as waypoints for aircraft and aircrews to continue throughout the transportation system with minimal delay (1997 Air Mobility Master Plan, 1996: 2-7, 4-13).

Figure 6 illustrates the need for a balanced flow. Throughput volume in this case is determined by the capacity of the on-load, off-load, and en route nodes. While movement data is required for each node, this pipeline represents strategic movement only. Any en route stops are part of the strategic movement. Theater transportation is responsible for cargo and personnel from the off-load (APOD) to the final destination.

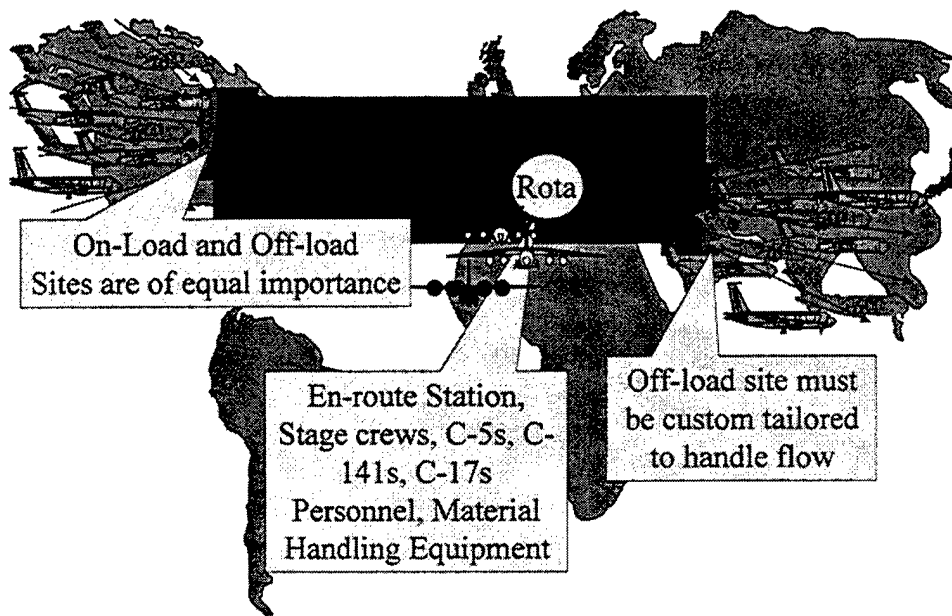


Figure 6. Building the Pipeline

(McNabb, 1999)

However during OJE/G, movements fell through the cracks at the seam. In some cases movement instructions reflected the en route node as the final destination. The Tanker Airlift Control Center (TACC) is responsible for command and control only for strategic movements. This error was compounded when movement instructions from the en route node to the APOD node reflected theater airlift movement. This equated to no movement instructions at all. Under the current divided transportation system, neither the TACC nor the theater commander had visibility over the cargo held up at the en route stop. In this example, the seam did not close (TPFDD Pulls are Missing AK Legs in Some Cases, 1996).

A JTF J3/J4 responsible for both strategic and tactical inter-modal transportation would have caught this delay. Pulling the inter-theater and intra-theater airlift would

have been a routine occurrence. While mistake will still occur, a JTF J3/J4 increases the likelihood of catching them before cargo actually is delayed.

Operation UPHOLD DEMOCRACY

On September 19, 1994, the U.S., in association with the United Nations, intervened militarily in Haiti with OPERATION UPHOLD DEMOCRACY. The U.S. wanted to restore Haiti's democratically elected government. Later, it sought to establish and maintain a safe and secure environment for institutional reform and democracy (Haiti, 1998).

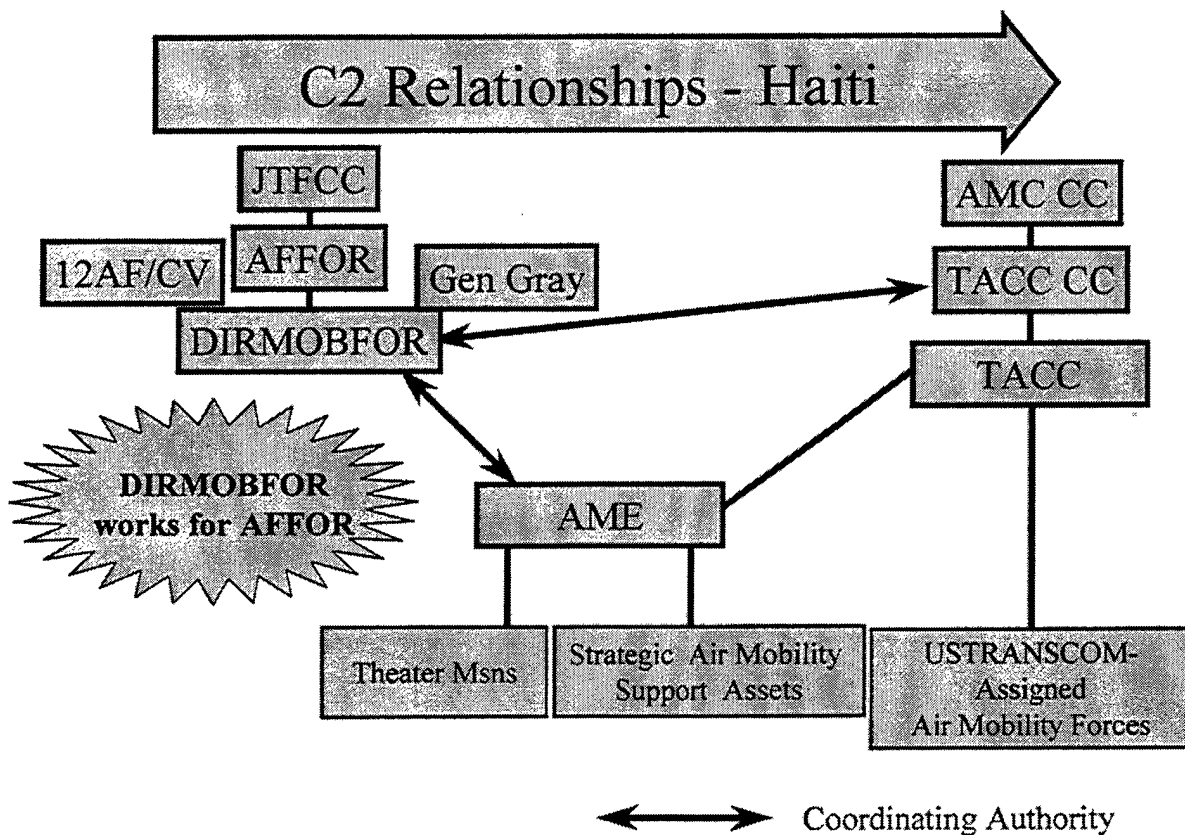


Figure 7. C2 Relationships - Haiti

(Coolidge, 1999)

Haiti's limited logistics infrastructure required the insertion of AMC airlift support forces. USACOM tasked the U.S. Army component to provide base operating support (BOS) for all U.S. forces. U.S. Army and Marine forces are self-sustaining requiring minimum BOS. Air Force personnel do not have the same deployment doctrine. Air Force augmentation forces are not self-sufficient. They must integrate into the theater's supply and support system. In this case, indifference to augmentation forces' BOS needs worked against the supporting Army component since airlift was the primary line of communication (LOC) any delays to AMC's transportation forces translated into reduced support to the Army component. For example, realizing a need for civil engineering support, USACOM placed a requirement for a RED HORSE team in the TPFDD. The heavy lift required to transport RED HORSE's civil engineering equipment and its unanticipated insertion into the TPFDD created an airlift scheduling challenge for airlift planners which delayed RED HORSE's arrival (BOS Not Planned, 1994).

The BOS example above reflects the trade-off between support and combat forces. Limited throughput makes each allocation of transportation resources a unique decision. For any given crisis response, airlift planners must ensure sufficient personnel and equipment are in place before the arrival of airlift aircraft deploying combat forces. Therefore, nodal analysis must evaluate the total requirements must for the entire DTS network (air refueling assets, POEs, en route locations, and PODs). These planning actions reduce the available lead-time available to actually establish or upgrade support locations. Force modules are building blocks used to reduce TPFDD development time. AMC reduced their planning lead-time by developing en route infrastructure

personnel/equipment force modules for rapid insertion into the supported CINCs TPFDD (AMC En Route Support Force Modules Needed, 1992).

No matter how efficient each USTRANSCOM transportation component becomes at planning, if they are not included on the JFC's planning staff, they cannot support the warfighting CINC. Excluding USTRANSCOM from the initial planning process, involving them late in the planning process, or not involving USTRANSCOM components will lead to unrealistic air, land and sea transportation planning factors. A JTF J3/J4 as an integral part of the JTF staff can support and influence operational decisions before making the decisions.

Operation QUICK LIFT

France, the United Kingdom and the Netherlands formed a United Nations Reaction Force (UNRF) as a means to strengthen the UN Peace Forces (UNPF) in the former Yugoslavia. The U.S. agreed to provide strategic lift to facilitate force deployment. Air Mobility Command deployed a Director of Mobility Forces (DIRMOBFOR) to US European Command Headquarters in order to set up the airlift network. The Air Mobility Element (AME), normally located within the AOC was sent to the Vicenza, IT, combined AOC (CAOC). One Tanker Airlift Control Element (TALCE) deployed to RAF Brize Norton, UK and the another to Split, Croatia.

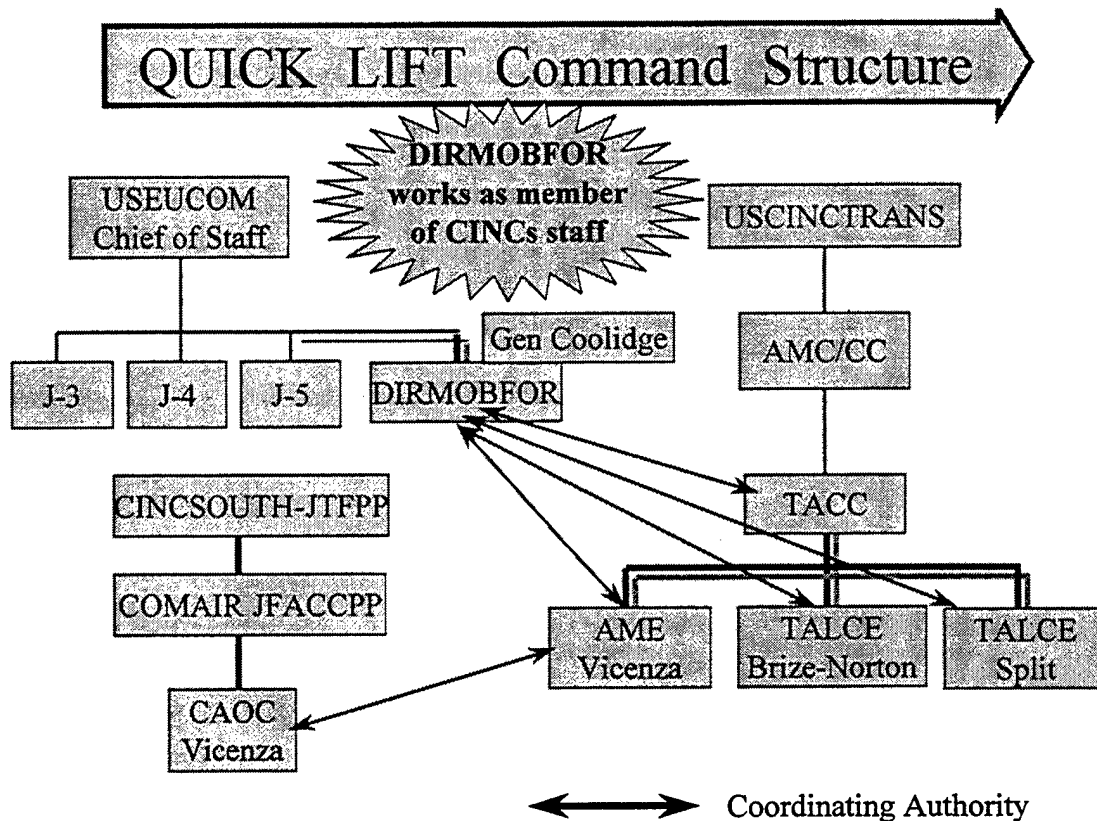


Figure 8. Quick Lift Command Structure

(Coolidge, 1999)

In Figure 8, the location of the DIRMObFOR on the CINCs staff was inconsistent with current Air Force doctrine but necessary at the time. While the DIRMObFOR was able to educate and integrate into the USEUCOM Staff, the DIRMObFOR belonged with the JTF staff in Vicenza, Italy. Eventually, the Regional air Mobility Control Center (RAMCC) was established within the Vicenza CAOC and headed by the DIRMObFOR. Since DIRMObFOR doctrine was non-existent at this time, no one except the senior leadership at the Unified Commands understood how USTRANSCOM and AMC interfaced with their customers. Placement of the DIRMObFOR on the USEUCOM staff

quelled resentment at the USEUCOM action officer level and reduced overall sensitivity by AFSOUTH's component AIRSOUTH to AMC's presence. In AFSOUTH's view, AMC violated UN and NATO command lines. Additionally, the AME, TALCE, and DIRMOBFOR thought they were the final approval authority for airlift decisions. The Tanker Airlift Control Center (TACC) Director assumed he was responsible for making the final decision and called both the AME and DIRMOBFOR to confirm information which had already been passed by the AME. These confusing relationships delayed critical decisions. AMC and USTRANSCOM soon solved the problem by making the DIRMOBFOR/AME the director for all missions in support of an operation. This doctrine was then presented in an AMC Mobile Command and Control briefing given to AMC NAF Commanders, HQ ACC, HQ USAFE, HQ PACAF, and their respective NAFs. AMC's current doctrine requires TALCEs to report through a theater AME if available (Coolidge, 1995). After Operation QUICK LIFT, Major General Coolidge arrived at conclusions similar to those put for in this paper:

"Recommend USTRANSCOM staff develop a comprehensive Global Reach Laydown Brief that incorporates land and sealift as well as air. Suggest that the USTRANSCOM staff take that brief to all the Unified Commands. AMC, MSC, and MTMC should have representatives on this team. Also recommend USTRANSCOM send a TRANSCOM FORWARD element to work on the JTF/CC staff in the JMC or, in this case, to the USEUCOM J-4 staff in the JMC particularly in cases when more than one component is involved. This element would assist the JTF/CC or CINC in tracking/prioritizing movements. (Coolidge, 1995: Emphasis Added).

Major General Coolidge's comments reflect the need for a JTF J3/J4 under the current environment. His use of the JTF J3/J4 in tracking and prioritizing movements

will smooth the airlift flow. Theater CINCs must take this concept further by embracing the permanent theater J3/J4 concept. Theater CINC's need a permanent J3/J4 presence on their staff available to participate in the operational planning process.

Hurricane Marilyn

One of the largest concerns to a DIRMOBFOR is airfield throughput. Over saturation of airfields has the potential to exceed the aircraft servicing capacity and create unsafe conditions. Several lessons were learned from Hurricane Marilyn which have universal applicability for both natural disaster and humanitarian airlift efforts. Increased airlift aircraft flow control is necessary in order to prevent uncoordinated DOT/DOD as well as privately chartered relief airlift operations. Similar throughput concerns surface when non-DoD agencies packaged and shipped their cargo with pallets and containers incompatible with AMC material handling equipment often times requiring unloading by hand. Unloading non-DoD aircraft when unloaded by hand wasted manpower and time. Transporters needed visibility over contents of each load so material-handling equipment can be available upon aircraft arrival. The DoD cannot control the chartered aircraft of other government agencies. Therefore, the DIRMOBFOR had to adjust the arrival times of military-disaster-relief aircraft in order to de-conflict military and commercial traffic competing for the same airfields (Coolidge, 1996).

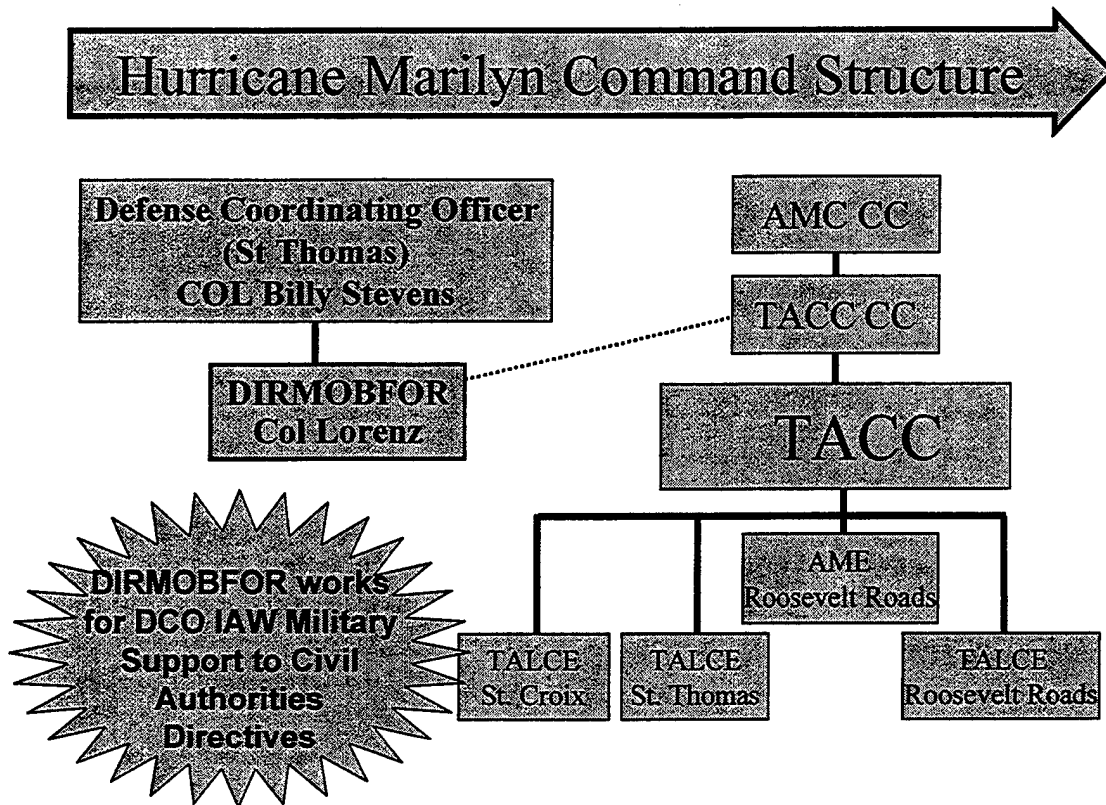


Figure 9. Hurricane Marilyn Command Structure

(Coolidge, 1999)

Hurricane Marilyn proved the need for a J3/J4 who can control all modes of transportation. While the DIRMOBFOR was concerned with primarily airlift, the speed at which cargo could be moved off the airfield significantly impacted throughput. This is when a true JTF J3/J4 "mobility flow master" is required to coordinate all modes of transportation. The sooner the sealift network came up to speed the sooner the airlift burden eases.

Conclusion

The Common thread between these Combatant CINC structures is in the fact that the DIRMOBFOR and other USTRANSCOM components were outsiders. The burden

of determining the transportation needs of the supported CINC defaulted to the respective transportation component. AMC, MSC or MTMC can only modify their internal processes and provide transportation-component liaison officers so far before adding another item to a checklist begins to make transportation planning more inefficient. Different people have different opinions as to how close we are to this point of diminishing returns, I believe we have arrived and will only foster inefficiencies.

Which command structure effectively accomplishes the mission? Probably all of them did. Could some of these command structures be re-designed for increased efficiency? The answer is most always yes. Lack of standard processes and structures make it difficult for the people performing these internal processes to improve the processes or the organizational structure.

As was stated earlier, every JTF staff is ad-hoc and each staff's persona reflects the sum of all of its personalities. A team of USTRANSCOM planners must become familiar with the needs of the supported CINC in order to develop a coordinated plan during the early stages of a crisis response. This plan must optimize the throughput of each surface, sea, and airlift node with consideration of the entire strategic and the theater distribution network.

IV. Role of the DIRMOBFOR

Introduction

This chapter discusses the original subordination of the director of mobility forces (DIRMOBFOR) to the Joint Air Operations Center (JAOC) as described in current Air Force Instructions (AFIs). It describes the results of realignment actions placing the DIRMOBFOR under the Joint Forces Air Component Commander (JFACC) in joint publications highlighting the DIRMOBFOR's control of all theater assigned and attached strategic airlift assets. It describes the difficulties in using these organizational structures and command relationships in order to execute operations with respect to our two assumptions. While no formal documentation exists discussing organizational problems, the mere fact JTF and DIRMOBFOR organizational structures have had substantially different appearances in recent operations indicates a situationally dependent and personality driven integration into the JTF staff. How does the JTF make transportation decisions? Based on these different organizational structures, it is apparent that each JTF uses a unique decision making and execution processes. Each of these organizational structures represents a learning curve and may have caused transportation delays and sub-optimal mode selection.

DIRMOBFOR and the Joint Forces Air Component Commander (JFACC)

Figure 10 resides in multiple publications and highlights the AOC Director and DIRMOBFOR relationship. When established, the DIRMOBFOR serves as the

designated agent of the JFACC or COMAFFOR for all air mobility issues. In the current relationship, the DIRMOBFOR is essentially a member of the JFACC/COMAFFOR's staff equal to the Air Operations Center (AOC) director. The DIRMOBFOR directs all USTRANSCOM/AMC assigned strategic airlift planners, Tanker Airlift Control Elements (TALCEs), Air Mobility Elements (AMEs), mobile port personnel, and equipment. The AOC's Air Mobility Division acts as the single planning and control center for air mobility under the JTF. The AMD forms an Air Mobility Control Team (AMCT); theater Airlift Control Team (ALCT); Air Refueling Control Team (ARCT); and an Aero-Medical Element (AME) with the appropriate level of robustness. Additionally, the DIRMOBFOR exercises coordinating authority between the AMD, Joint Movement Center (JMC) and the AOC in order to expedite the resolution of any airlift throughput problems.

Airlift and the DIRMOBFOR often receive much attention due to the speed required to execute the JFC's mission. Figure 10 (Sample Command Relationships for Air Mobility Forces) raises the DIRMOBFOR to a level equal to that of the AOC Director with direct access to the JFACC or COMAFFOR. Current trends provide the DIRMOBFOR direct access to the JFC. The emphasis given to elevating the DIRMOBFOR's placement on the JTF staff has improved strategic and tactical airlift coordination. However, sea and surface transportation have not received the same level of attention. No single staff organization is responsible for or knowledgeable of the intricacies of all three modes of transportation.

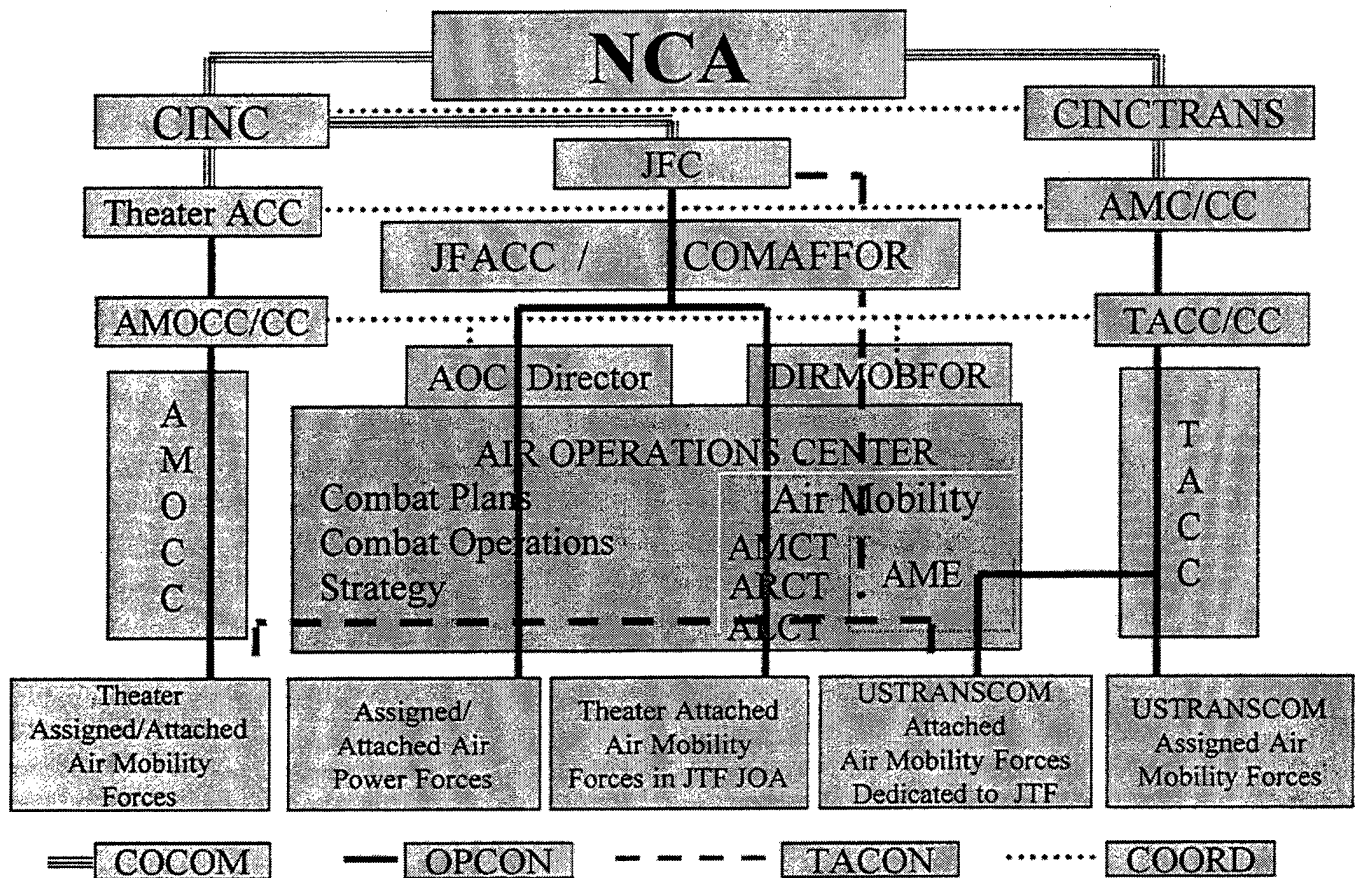


Figure 10. Sample Command Relationships for Air Mobility
(AFDD 2, 1998)

Current Relationship of Strategic and Tactical Transportation Organizations

Airlift enjoys a "transportation panacea" status due to its speed, flexibility, and reliability. Within the airlift structure, maintaining this speed, flexibility, and reliability requires extensive coordination and collaborative planning between strategic and theater airlift resources. The following excerpt describes the strategic and tactical mobility air force (MAF) partnership:

The MAF operates as an integrated system of assets, and satisfies the Joint Force Commander's (JFC) mobility requirements through common procedures that bridge the functional command structures of theater and CONUS-based forces. Effective support of geographic CINC's mobility requirements demand the

theater and CONUS-based forces form a global partnership. This partnership must operate as an integrated force with common planning, tasking, scheduling, and command and control (C2) systems. A critical element of this partnership is linking centralized control agencies such as the CONUS-based forces' AMC Tanker/Airlift Control Center (TACC) and the theater's Air Mobility Operations Control Center (AMOCC). MAF partners exercise centralized control to ensure the JFC is supported with responsive, capable, and seamless air mobility. (AFDD 2-6, 1998: 8)

Attempts to make the airlift transportation system seamless focus on two Air Force specific organizations: the Tanker Airlift Control Center (TACC), and the Air Mobility Operations Control Center (AMOCC). A series of information system enablers also exist but will not be discussed. These systems include the Global Decision Support Systems (GDSS), Global Command and Communication System (GCCS), Global Transportation Network (GTN), Defense Red Switch Network (DRSN), or AMC Deployment and Analysis System (ADANS) information systems. These information systems represent the tools used to tighten the strategic TACC and the theater AMOCC seam or point of transfer from strategic to tactical air mobility. Figure 11 illustrates the relationship and interface of these two organizations.

The TACC and AMOCC improved coordination between EUCOM and AMC to compensate for the post Cold War seam which resulted from the Rhein Main, Germany, base closure and the sunset of the 322nd Airlift Division (ALD). The TACC and AMOCC cannot duplicate the integration enjoyed by the 322 Airlift Division (ALD) which was under the command and control of MAC. Clearly, airlift receives the most attention with respect to command and control due to AMC's persistence, unique capabilities and required state of readiness. Sealift and surface transportation have just

recently received increased levels of attention and funding commensurate with their level of importance.

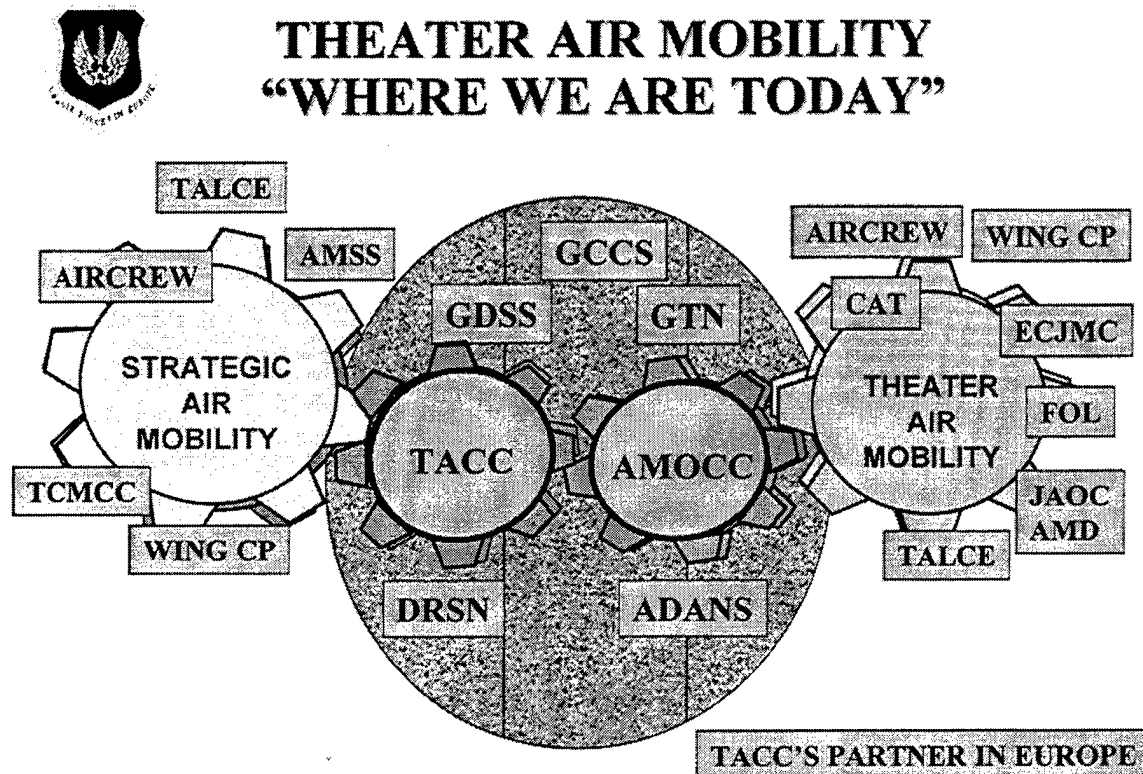


Figure 11. TACC's Partner in Europe

(Gallion, 1999)

Even though USTRANSCOM unified all of the transportation component commands, much of the pre-USTRANSCOM organizational structures and processes exist. For example, MSC area commanders interface with theater Naval Component Commanders. This dilutes the concept and makes planning difficult. The current strategic and tactical placement of surface and sealift transportation organizations does not appear to have been part of a logistics-network master plan. This entire network

reflects piecemeal construction. A JTF J3/J4 would replace the TACC and AMOCC gears along with everything else in the gray center circle.

Consider a USTRANSCOM J3/J4 description of MTMC's and MSC's role in terms of a single logic and integration into operational plans. MTMC and MSC integrate very differently in support of a JTF. MTMC will deploy an element (Tiger Team) from one of its existing locations. The MTMC element is the primary interface to manage single port operations across the JTF Area of Responsibility (AOR). MTMC integrates with theater port operations using a Single Port Manager. The commander of the Port Transportation Group (CTG) is the senior port operator for military services. The CTG receives day-to-day taskings from the MTMC element. The surface and sealift portions of the USTRANSCOM J3/J4 working with JTF J3/J4 could replace the current MTMC, MSC, and NAVCC interface.

MSC coordinates with the supported CINC naval component on an as needed basis to conduct operations. MSC has a much smaller interaction with the JTF staff than AMC and MTMC. MSC provides support by activating reserve ships maintained by the Maritime Administration (MARAD). MARAD coordinates sealift operations through an MSC Area Command attached to the supported CINC's naval component. Area commands are MSC's theater focal point in support of JTF operations. As always, area commands can provide liaisons to the supported CINC's staff in order to explain this process. Additionally, USTRANSCOM liaisons will augment the JTF or theater CINC's Staff as required to integrate organizations outside of the DTS. (Johnston, 1999).

In most cases, closing the seam between strategic and tactical transportation requires extensive coordination. Allowing each component to use dissimilar

organizational structures and processes severely dilutes the integration of a single logic into operational plans. This presumes USTRANSCOM transportation planners use a single logic. Based on current literature, this cannot be so.

To illustrate this point, turn Figure 12 on its side and notice how the majority of our DOD transportation network consists of three vertically integrated and parallel modes delicately linked together via area commands and liaison officers. Inter-modal coordination is difficult as is the coordination between USTRANSCOM's strategic and the theater's tactical networks. USTRANSCOM liaison staffs admit they are primarily familiar with their service component transportation capabilities and unfamiliar with the remaining two components internal processes.

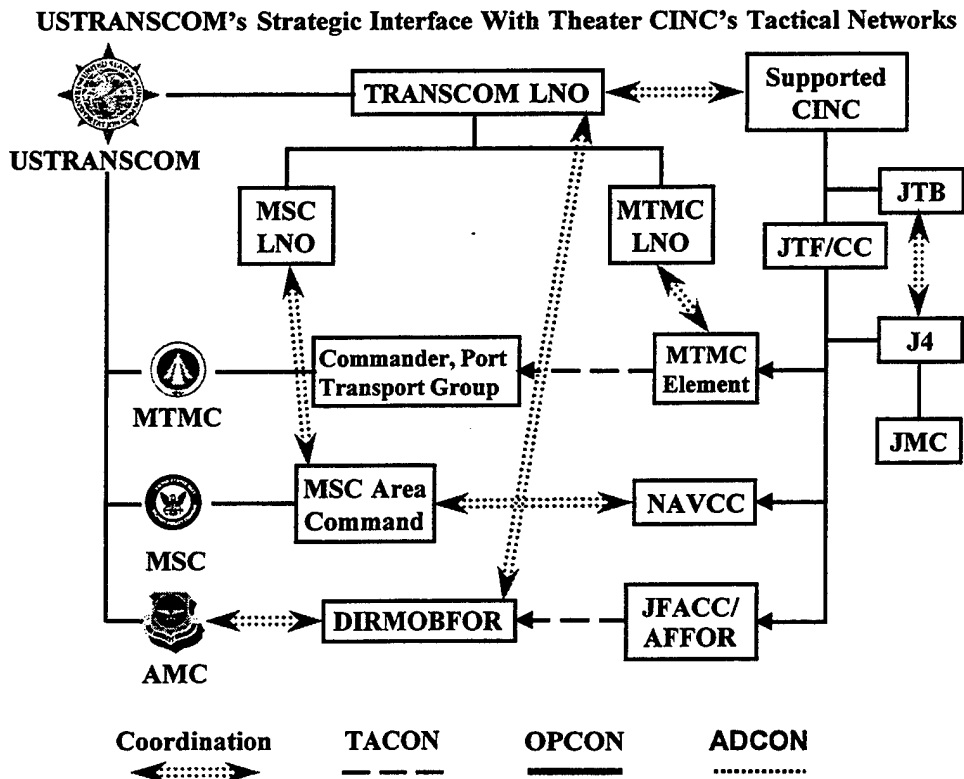


Figure 12. USTRANSCOM's Strategic Interface With Theater Cinc's Tactical Networks

Difficulties in using Current Structures and Command Relationships

Until the DOD treats all defense transportation as a national asset, non-value-added layers will impede component transportation organizations' efficient use of resources. This very powerful statement echoes Air Force Institute of Technology and Intermediate Service School research (see Bibliography: Bossert, Cordell, Devereaux, Dubyak, GAO, Layer, Shea). Consider the following illustration supporting a flattened DTS organizational structure. At the time of this writing, OPERATION ALLIED FORCE, the air campaign against Serbian forces occupying Kosovo, was in its 25th day of execution. While everyone involved in this operation works to optimize their individual throughput, distribution remained unsynchronized throughout the transportation network. Optimal throughput does not necessarily equal maximum throughput. Optimal throughput occurs with a distribution system able to provide resources as needed to the war fighting CINC. Senior Air Force personnel both in theater and at the Pentagon agree, Operation ALLIED FORCE support and humanitarian relief demands in support of Operation SHINING HOPE, the Kosovo humanitarian relief effort, compete for airlift resources. Strategic sealift assets are not yet delivering relief or war materiel. The first (commercial) sealift vessel will not arrive until day 35. This delay was not attributable to sealift. It resulted from a motor carrier failure at the inter/intra-theater seam, from the APOD, Ancona, Italy, to the intra-theater Ancona, Italy, seaport.

The logistics infrastructure throughout the Balkan region limits the full exploitation of our strategic sealift and theater surface movement. Potentially battle damaged, this terrain limited logistics infrastructure is an example requiring a top down

approach to planning the strategic logistics network, and a bottom up approach to planning the tactical logistics network. It is equally important that the transportation organization performing this top down and bottom up planning must develop these plans in concert. A theater J3/J4 working in unison with USTRANSCOM J3/J4 would satisfy two fundamentals relevant to this discussion. It would reduce the operational limitations of a joint forces commander (JFC) by integrating logistics into operational plans; and formulating a single logic to guide logistics decisions at every level. The U.S. military must get away from compartmentalized batch processing of operational plans. Each plan must be developed with as much information as possible. A JTF J3/J4 staff provides a multi-modal insight and intuition to the JFC which may otherwise go unnoticed.

JTF Situational Dependence and Personality Driven Integration

Previous DIRMOBFORs agree the Air Force has not embraced joint processes as aggressively as other services. This unfamiliarity with JTF processes combined with different JTF commander's service orientation increases the DIRMOBFOR's learning curve. Compound this with the ad-hoc nature of JTF manning and the entire JTF learning curve just became steeper for everyone involved.

Why is this important? In order to improve our mobility processes, we must first standardize these processes and achieve consistent measurable performance. An executive level course taught at the Air Mobility Warfare Center, Ft. Dix, NJ, provides future DIRMOBFORs with an overview of their role in the JTF. This course describes command and control procedures, organizational structures and DIRMOBFOR duties. While colonels and brigadier generals receive this training and are pre-identified as

DIRMOBFORs, the ad-hoc nature of the JTF staff prevents lower ranking staff members from receiving the same benefit. Predetermined assignments to a DIRMOBFOR mobility position would enable the entire staff to receive formal education and participate in training exercise. A formal JTF J3/J4 staff directorate when formally introduced to the JTF will be expected to participate in training exercises and real world emergencies. For this reason, the JTF J3/J4 would want to hold training sessions.

JTF Transportation Decision Making Process

Due to the current division between our strategic and tactical transportation organizations, transportation decisions focus on sub-optimal objectives instead of strategic goals. USTRANSCOM focuses on transportation windows at the port of debarkation (POD) established by the earliest arrival date (EAD) and latest arrival date (LAD). As long as USTRANSCOM delivers cargo and personnel to the POD within the EAD and LAD time-frames, the movement was a success.

The OPLAN or OPORD, created via crisis action planning (CAP), represents an agreement between the supported CINC and CINC USTRANSCOM. This agreement, based on movement priority information, could be days, weeks or months old. The specifics for this agreement are contained in the TPFDD. The TPFDD reflects a snapshot of the strategic and tactical transportation seam in terms of LAD and RDD. Once the theater CINC signs up to the TPFDD, USTRANSCOM executes based on LAD requirements (Coolidge, 1999).

Problems arise when the decision logic used to establish the LAD during the planning phase changes during execution. USTRANSCOM planners cannot access

changes in RDD logic and continue to plan priorities based on LAD logic. Why is this significant? Without a single logic guiding the deployment, both aerial and sea ports of debarkation may encounter reduced throughput. Reduced synchronization could also increase the workload for port operators. It may result in incompatible inter-modal or improperly configured transshipment equipment. Simply stated, TPFDD data points do not provide the level of fidelity needed to sequence cargo through the port of debarkation node. Component unique processes and movement schedules provide the detailed hour by hour schedules. These schedules must be made with imperfect information which may in turn delay the war-fighting CINCs receipt of materiel and personnel at the final destination. Finally, reception, sustainment, onward movement, and integration (RSO&I) factors influence transportation lead-time from the POD to final destination. Once forces arrive in theater, they require time to regroup, test and calibrate equipment. These lead-times are dynamic and strategic planners may not adjust the LAD to incorporate RSO&I requirements from POD to destination. The sequence in which these forces arrive or the difference between the first hour of day 35 and the last hour of day 35 may mean the difference between a unit meeting its destination closure time or not. Our bulky networks rely on individual components to provide the level of fidelity necessary to maintain control over all of the parts in the system. As any good value engineer will tell you, the more moving parts you have, the easier it is for a product to break. Figure 11 does not tell the entire story. Many parts will not function properly (speed up or slow down) in a deployment and unbalance the transportation flow through the system. JTFs need a J3/J4 for no other reason to simplify the process and remove some non-value-adding steps.

Conclusion

The DIRMOBFOR has regained just about all of the "Cold War" level of influence they are going to get on the JTF staffs. Under the current command relationships, any future gains will depend on the charismatic effectiveness of individual DIRMOBFORs. A flattened command and control structure is required to simplify deployment planning, and, reduce manpower and planning lead-times. In order to maintain a high level of responsiveness, a DIRMOBFOR must fully integrate into the JTF staff at the director level. Transportation systems at every level should be understood by all. This would requires a large organizational realignments with very flat command and control relationships.

V. Strengthening the JTF

Introduction

This chapter describes how to strengthen mobility planning and execution in the JTF and proposes the JTF J3/J4 manage all assigned and attached DTS mobility forces. It illustrates how the J3/J4 can improve decision making on the theater CINC's staff and the JFC's staff by using an expanded Global Reach Laydown Package (GRLP) which adds MSC and MTMC mission support to AMC's current structure.

JTF J3/J4 As Manager of All Assigned and Attached DTS Mobility Forces

The need for a JTF J3/J4 may not be immediately apparent to AMC personnel currently working within the DIRMOBFOR system. The U.S. military operates in an environment of service separation. Public law, doctrine, and cost accounting systems segregate our services. This division permeates our internal processes and prevents the DOD from achieving optimal mobility performance. A similar division exists within the Air Force between the DIRMOBFOR and the AOC. The DIRMOBFOR provides direction only to the Air Mobility Division (AMD) since the AMD reports to the AOC director. Extend this separation to the joint environment and our transportation command and control problems increase. CAF and MAF parochialism extend to the joint environment. "Under a structure where the JFACC is other than Air Force, the DIRMOBFOR would work for the senior Air Force officer in the theater, the AFCC" (Johnston, 1999). Perhaps other services accept the Air Force's "need" to have the

DIRMOBFOR report to an Air Force commander because they consider airlift an Air Force mission and desire reciprocal autonomy for their transportation components.

The parochial DIRMOBFOR concept presupposes the DIRMOBFOR is the "Sole conduit for all air mobility issues associated with the theater," and qualifies the DIRMOBFOR as the "Contingency Flow Master." This view, based on recent airlift dependency, discounts the throughput synergies provided by other transportation modes and the requirement for a systems approach to transportation planning. The parochial DIRMOBFOR concept enjoys seemingly unbounded AMC support. Airframe availability (tails) and the maximum number of aircraft on ground (MOG) remain the most limiting factors in air mobility operations. Airlift MOG capacities experience two primary constraints: aircraft parking spaces on the ramp restrict both airlift and air refueling aircraft; and personnel and material handling equipment available to upload and download aircraft. As MOG managers, the DIRMOBFOR becomes the JFACC's expert on throughput. The DIRMOBFOR's throughput responsibility ends at the receiving area. Theater distribution organizations are responsible for maintaining the throughput from the aerial port of debarkation to the destination. USTRANSCOM J3/J4 working in conjunction with the proposed JTF J3/J4 provides a "Sole conduit for all mobility issues," and a "Contingency Flow Master" (Hogle, 1999).

Figure 13 proposes a simplified version of a USTRANSCOM and JTF J3/J4 without a joint transportation board, joint movement center, or transportation component liaisons. This balanced structure focuses customers on the optimal mode of transportation.

Proposed JTF Structure

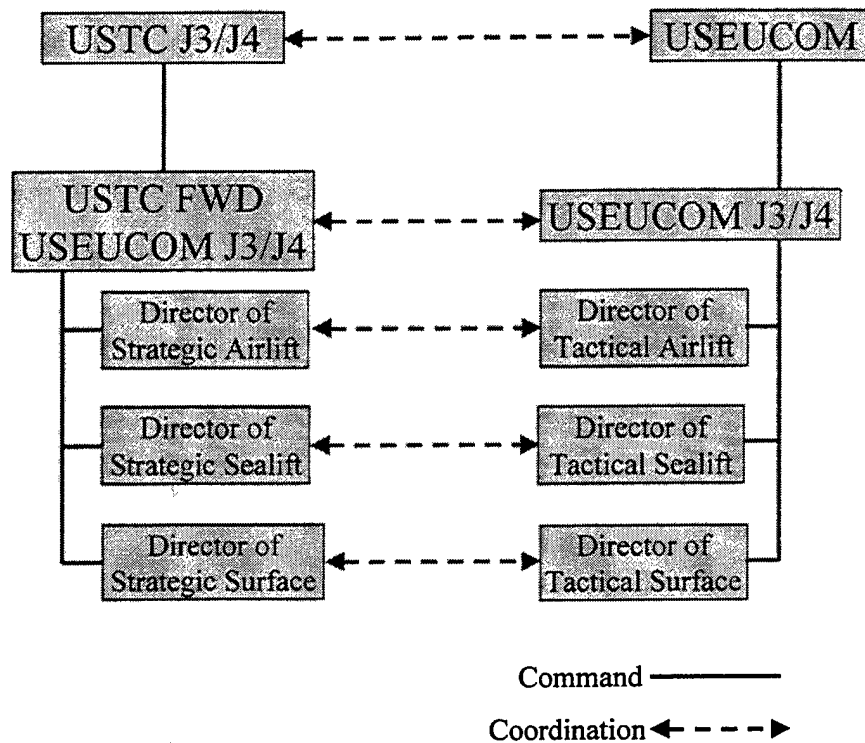


Figure 13. Proposed JTF J3/J4 Structure

Figure 13 represents two independent organizations. The first, establishing a USTRANSCOM Forward element, could be initiated by USTRANSCOM alone with only the concurrence of the theater CINC. Final discussions involve the current strategic and tactical placement of surface and sealift transportation organizations. It replaces and centralizes today's USTRANSCOM component liaison officers into one organization. These directors of strategic airlift, sealift and surface transportation represent USTRANSCOM in each theater. They see to the daily strategic needs of the theater acting as the eyes and ears of the USTRANSCOM command control center as well as each transportation component's command and control center. It is a temporary

organization ready to deploy upon receipt of the CINC's JTF activation message. The second organization, the proposed USEUCOM J3/J4, represents a permanent directorate on the warfighting CINC's staff. It replaces and centralizes all of today's theater transportation components into one organization. The benefits of this design stem from the improvement in centralized control of strategic and tactical transportation components.

The benefits of Figure 13 become clearer when compared to Figure 12. Ask yourself which organization would you rather navigate through to arrange inter-modal strategic and tactical cargo movements? Figure 13, although simplistic, flattens both the USTRANSCOM component organizations and the theater CINC's transportation organization. This parallel structure facilitates the equal weighting of all transportation resources during mode selection and network planning.

Expanded Global Reach Laydown Package (GRLP)

In 1998, AMC developed the Air Mobility Master Plan. This modernization plan explained future initiatives in terms of people, infrastructure, and equipment needed to provide the warfighting commanders the means to rapidly deploy forces through the Defense Transportation System (DTS) in peace and war.

Figure 13 focussed on centralizing command and control. In addition to this, expanding the GRLP to include all transportation components support packages becomes a subsequent and necessary step. Large-scale air mobility operations require the pre-positioning of support forces to maintain aircraft, care for crews and passengers, and on-load and off-load cargo. AMC maintains a fixed en route support structure (ERS) that

provides command and control, logistics, and aerial port services to air mobility forces performing worldwide USTRANSCOM missions. When operating from locations with little or no support a deployable en route support structure fills the gap: Global Reach Laydown (GRL). These deployed mission support forces establish an aerial port capability similar to that of en route Air Mobility Support Squadrons (1998 AMMP, 1997).

Since "The 1997 Year of the ERS," was an AMC initiative and not a USTRANSCOM initiative, we can infer any decisions made by AMC planners did not assign an equal weight to MSC, MTMC and theater JMC inter-modal considerations. The entire ERS investment failed to use a single logistics logic, and integrated only air transportation into each theater CINC's operational plans. While this investment increased airlift's competitive advantage over other modes of transportation, it may not have increased the DOD's overall transportation throughput velocity or capacity. In order to plan USTRANSCOM's and the theater's optimal inter-modal logistics network, USTRANSCOM should lead a "Year of the Inter-Modal ERS" based on current operational plans and recent notional deployments.

Conclusion

Strengthening the JTF requires consensus amongst USTRANSCOM's transportation components and the supported CINC. Currently the supporting CINC is an outside customer to the DTS. Establishing a USTRANSCOM J3/J4 on the supported CINC's and JTF's staff brings the supported CINC closer to becoming an inside customer in the transportation process. It is unreasonable to expect an ad-hoc JTF staff to

understand today's strategic and theater transportation network, processes, and interfaces without incurring a significant learning curve. Strengthening the JTF transportation organization requires a simplified organizational structure and parallel modal processes.

Combining the current DIRMOBFOR, MSC and MTMC components with the J4 Joint Movement Center (JMC) should improve decision making on the theater CINC's staff. The Global Reach Laydown Package which adds MSC and MTMC port operators to AMC's current structure must be synchronized. Once synchronized, planners can it balance the flow through the system and reduce the duplication of mission support personnel and equipment.

AMC planners must use USTRANSCOM's single logic in order to increase the DOD's overall transportation throughput capacity. In order to plan USTRANSCOM's and the theater's optimal inter-modal logistics network, USTRANSCOM J3/J4 in conjunction with USTRANSCOM J5 should lead a "Year of the Inter-Modal En Route Structure."

VI. Recommendations and Conclusion

Introduction

This chapter reviews the concepts put forth in previous chapters and highlights the past and present role of the DIRMOBFOR. It describes how a JTF J3/J4 might build upon previous DIRMOBFOR successes through the establishment of a JTF staff directorate capable of meeting the strategic and tactical mobility needs of the Joint Forces Commander. It provides recommendations for future study and analysis and reinforces the need for a single logic and an integrated logistics and operations planning process.

Review of Investigative Question

1. Why does a JTF need a DIRMOBFOR and where was it originally placed on the JTF staff?

The Air Force first integrated into a JTF as a war fighter. The air component was organized to prosecute an air campaign and meet Joint Forces Commander (JFC) objectives. AMC's predecessor, Military Airlift Command (MAC), had combatant command (COCOM) of inter and intra-theater Air Force airlift. The Commander-In-Chief, MAC (CINCMAC) commanded these forces, and his designated representative in theater was the Commander of Airlift Forces (COMALF) who reported to the Commander, Air Force Forces (COMAFFOR). When intra-theater airlift transferred to theater CINCs, the COMALF organization was no longer appropriate on the theater CINC's staff. This created an AMC command and control void in the JTF.

Early examples of organizational structures included Operation JOINT ENDEAVOUR/GUARD (OJE/G), Operation UPHOLD DEMOCRACY, Operation QUICK LIFT, and Hurricane Marilyn. OJE/G proved to be the most successful as measured by its applicability to other contingencies. AMC had to integrate strategic airlift considerations into these JTFs. The common thread between these structures is in the fact that the DIRMOBFOR and other USTRANSCOM components were outsiders. The burden of determining the transportation needs of the supported CINC defaulted to the respective transportation component. Eventually, even though individual components are making improvements, USTRANSCOM will pass through a point of diminishing returns which will cause a reduction in total DoD transportation efficiency. The absence of a standard transportation process makes evaluating organizational structures difficult. The early DIRMOBFOR organizations were ad-hoc which made it difficult to become familiar with the needs of the supported CINC.

2. How has the DIRMOBFOR's role changed and what benefit does the current DIRMOBFOR provide to the JTF staff?

OJE/G elevated the DIRMOBFOR's placement on the JTF staff and improved strategic and tactical airlift coordination. The DIRMOBFOR exercised coordinating authority between the AMD, Joint Movement Center (JMC) and the AOC in order to resolve airlift throughput problems. The speed required to execute the JFC's mission raised the DIRMOBFOR to a level equal to that of the AOC Director providing direct access to the JFACC or COMAFFOR. Current trends provide the DIRMOBFOR direct access to the JFC which has improved strategic and tactical airlift coordination. Attempts to make the airlift transportation system seamless focused on two Air Force specific

organizations: the Tanker Airlift Control Center (TACC), and the Air Mobility Operations Control Center (AMOCC). However, sea and surface transportation have not received the same level of attention.

No single JTF staff organization is responsible for or knowledgeable of the intricacies of all three modes of transportation. The current strategic and tactical placement of surface and sealift transportation organizations does not appear to have been part of a logistics-network master plan. The entire network reflects piecemeal construction since strategic and tactical AMC, MTMC and MSC forces integrate very differently in support of a JTF. In most cases, closing the seam between strategic and tactical transportation requires extensive coordination. Allowing each component to use dissimilar organizational structures and processes severely dilutes the integration of a single logic into operational plans. Until the DOD treats all defense transportation as a national asset, non-value-added layers will impede component transportation organizations' efficient use of resources.

USTRANSCOM focuses on transportation windows at the port of debarkation (POD) established by the earliest arrival date (EAD) and latest arrival date (LAD). As long as USTRANSCOM delivers cargo and personnel to the POD within the EAD and LAD time-frames, the movement is a success. Compare the DoD transportation system to the United Parcel Service (UPS). How efficient would a global distribution network be if UPS could only guarantee delivery to a UPS hub. Then, each division of the company was required to maintain its own local transportation assets in order to move every parcel to or from the UPS hub to final destination. Some would argue that one division would have the best transportation systems, one would have the worst, and the

other divisions would fall between these two. Eventually the finger pointing would begin over late delivery times.

Under the current command relationships, any future gains will depend on the charismatic effectiveness of individual transportation component directors. A flattened command and control structure is required to simplify deployment planning, and, reduce manpower and planning lead-times. In order to maintain a high level of responsiveness, transportation components must fully integrate into the JTF staff at the director level.

3. What would a JTF J3/J4 staff directorate look like and how would its addition strengthen the JTF?

The JTF J3/J4 would manage all assigned and attached DTS mobility forces and be responsible for all transportation decisions. Establishing a Joint Global Reach Laydown Package (JGRLP) combines AMC's current structure to MSC and MTMC mission support. MSC would be the first choice to meet strategic lift needs and airlift would pick up the time sensitive movements. In this way, USTRANSCOM won't focus on airlift at the expense of sea and surface transportation.

Service parochialism permeates our internal processes and prevents the DOD from achieving optimal mobility performance. USTRANSCOM's throughput responsibility ends at the receiving area. Theater distribution organizations are responsible for maintaining the throughput from the aerial port of debarkation to the destination. USTRANSCOM J3/J4 working in conjunction with the proposed JTF J3/J4 provides a "Sole conduit for all mobility issues," and a true "Contingency Flow Master."

Conclusion

Strengthening the JTF requires consensus amongst USTRANSCOM's transportation components and the supported CINC. Currently the supporting CINC is an outside customer to the DTS. Establishing a USTRANSCOM J3/J4 on the supported CINC and JTF staff brings the supported CINC closer to becoming an inside customer in the transportation process. It is unreasonable to expect an ad-hoc JTF staff to understand today's strategic and theater transportation network, processes, and interfaces without difficulty. Strengthening the JTF transportation organization requires a simplified organizational structure and parallel modal processes.

Combining the current DIRMOBFOR, MSC and MTMC components with the J4 Joint Movement Center (JMC) should improve decision making on the theater CINC's staff. The Global Reach Laydown Package which adds MSC and MTMC port operators to AMC's current structure must be synchronized. Once synchronized, planners can it balance the flow through the system and reduce the duplication of mission support personnel and equipment.

Excluding USTRANSCOM from the initial planning process, involving them late in the planning process, or not involving USTRANSCOM components will lead to unrealistic air, land and sea transportation planning factors.

The current mobility environment was examined through USTRANSCOM's relationship to different JTF organizational structures. The need to expand AMC's Global Reach Laydown Package (GRLP) to a USTRANSCOM GRLP focussed on inter-modal shipping needs. Examples involving differences in each services concept of base

operating support (BOS) provided insight to changes in cargo movement priority. A description of a JTF J3/J4 staff directorate provided a permanent integration method.

In order to plan an optimal USTRANSCOM/theater inter-modal logistics network, USTRANSCOM should lead a "Year of the En Route Structure" based on current operational plans and recent notional deployments. This would provide the attention and funding necessary to enhance the transportation system.

Recommendations

Should the USTRANSCOM advocate the establishment of a JTF staff directorate capable of meeting the strategic and tactical mobility needs of the Joint Forces Commander? Each supported CINC, or at least his logistics directorate, has an idea of the level of transportation service required for their theater operations. USTRANSCOM remains the only organization capable of gathering those inputs and making changes. Standard problem solving techniques apply to this situation. The people directly involved in the transportation process must be the ones to make these changes. The challenge will be first deciding who will participate in the problem solving and then getting the theater and USTRANSCOM components to agree on the optimal solution.

One team should be able to evaluate both the JTF J3/J4 proposal and the addition of a permanent theater CINC J3/J4 staff. This team would also be responsible for building comprehensive Joint Global Reach Laydown Package force modules. These force modules should include all required base operating support and should assign personnel to mobility positions in order to reduce some of the ad-hoc nature of the JTF.

A team of USTRANSCOM planners must develop a coordinated plan during the early stages of a crisis response. This plan must optimize the throughput of each surface, sea, and airlift node with consideration of the entire strategic and the theater distribution network. Until a time when USTRANSCOM has combatant command over all transportation personnel and assets, integrating a JTF J3/J4 and a theater CINC J3/J4 provides an excellent opportunity to simplify our wartime logistics infrastructure. A simplified logistics infrastructure increases the chances for operational success..

Appendix A: Glossary of Terms

Aerial Port of Debarkation (APOD). The aerial port at which cargo or personnel are discharged. For unit requirements, it may or may not coincide with the destination.

Aerial Port of Embarkation (APOE). The aerial port at which cargo or personnel depart. For unit and non-unit requirements, it may or may not coincide with the origin.

Aeromedical Evacuation (AE). The movement of patients under medical supervision to and between medical treatment facilities by air transportation.

Air Reserve Component (ARC). Combination of Air Reserve, Associate Air Reserve, and Air National Guard units that together with the active duty component constitute the Total Force for the USAF.

AMC Deployment and Analysis System (ADANS). The primary planning, scheduling, and analysis tool used by AMC.

Campaign Plan. A plan for a series of related military operations aimed at accomplishing a strategic or operational objectives within a given time and space.

Common-User Transportation. Transportation and transportation services provided on a common basis for two or more Department of Defense agencies and, as authorized, non-DoD agencies.

Concept Plan (CONPLAN). An operation plan in an abbreviated format that would require considerable expansion to convert it into an OPLAN or operational order (OPORD). Generally, detailed support requirements are not calculated and a TPFDD is not prepared.

Crisis Action Planning (CAP). The process involving the time-sensitive development of joint operation plans and orders in response to an imminent crisis. Crisis action planning will formulate and implement an effective response within the timeframe permitted by the crisis. It includes planning for the deployment, employment, and sustainment of assigned and allocated forces. Crisis action planners base their plan on the circumstances that exist at the time planning occurs.

Deliberate Planning. The process involving the development of joint operation plans for contingencies identified in joint strategic planning documents. Conducted principally in peacetime, it is a planning process for the deployment and employment of apportioned forces and resources that occurs in response to a hypothetical situation. Deliberate

planners rely heavily on assumptions regarding the circumstances that will exist when the plan is executed.

Defense Transportation System (DTS). That portion of the nation's transportation infrastructure which supports DoD transportation needs in peace and war. DTS consists of those military and commercial assets, services and systems organic to, contracted for, or controlled by the DoD.

Direct Delivery. The air movement of cargo and/or personnel from an airlift point of embarkation to a location as close as practical to the customers final destination.

En Route Structure (ERS). Dynamic network composed of manpower, material, and facilities designed to support air mobility forces worldwide. Key locations serve as waypoints for aircraft and aircrews to continue throughout the transportation system with minimal delays. Similar to that used by major civilian air carriers, AMC's ERS can expand operations during contingencies and is the conduit for DoD's rapid global power projection capability.

En Route Support System. "Large-scale air mobility operations require a system of support forces in place to ensure aircraft are maintained, crews are rested, and passengers and cargo are properly handled. The ERS is a global network of manpower, materiel, and facilities that provides command and control, logistics, and aerial port services to air mobility forces performing USTRANSCOM worldwide missions. These elements are essential for ensuring smooth, continuous operations of air mobility forces. The ERS is the conduit for DoD's rapid global power projection capability."

Global Command and Control System (GCCS). The single integrated Command, Control, Communications, Computers, and Intelligence (C⁴I) system to support the planner and warfighter. It will provide the combatant commander a complete picture of the battlefield and the ability to order, respond, and coordinate Command and Control information to plan, manage, and execute contingencies. GCCS is replacing the current command and control system

Global Transportation Network (GTN). The automated support necessary to enable USTRANSCOM and its components to provide global transportation management. GTN provides the integrated transportation data and systems necessary to accomplish global transportation planning, command and control, and in-transit visibility during peace and war.

Intermodal Systems. Specialized transportation facilities, assets, and handling procedures designed to create a seamless transportation system by combining multiple modal operations and facilities during the shipment of cargo.

Joint Operation Planning and Execution System (JOPES). A system for translating NCA decisions into combatant commanders joint operations. Far more than a computer system,

JOPES contains joint policies and procedures and automated data processing (ADP) support used to plan and execute joint military operations. JOPES ADP resides in the computer network of the Global Command and Control System (GCCS). The JOPES hardware and software supports planners and commanders in the following planning and execution functions.

- developing detailed deployment requirements
- estimating logistics and transportation requirements and assessing operation plan transportation feasibility
- prioritizing, replanning, and tracking deployment status during execution
- refining deployment requirements and monitoring the deployment (CJCS Users Guide for JOPES)

Materials Handling Equipment (MHE). Mechanical devices (K-loaders, forklifts, etc.) for handling of supplies with greater ease and economy.

Mobility Control Center (MCC). The focal point for Defense Transportation System (DTS). Provides CINCs, OSD, the military services, and others information on mobility processes. Monitors all DTS requirements as well as location, status, and capabilities of mobility forces.

National Command Authorities (NCA). The President and the Secretary of Defense or their duly deputized alternates or successors.

Operation Order (OPORD). A directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation.

Operation Plan (OPLAN). A plan for the conduct of joint operations. An OPLAN identifies the forces and supplies required to execute the CINC's Strategic Concept and includes a movement schedule of these resources to the theater. The forces and supplies are identified in a TPFDD. OPLANs will include all phases of the tasked operation.

Operational Support Airlift (OSA). Provide wartime movement of priority cargo and passengers in support of operational requirements as well as peacetime training for new pilots and priority airlift of key decision makers.

Palletized Cargo. Cargo packaged or arranged on a pallet in a specified manner and securely strapped or fastened thereto so that the whole is handled as a unit.

Passenger Airlift. This task provides the airlift of combat and support personnel, unit rotations, and movement of the President and senior government or executive personnel. During contingencies, troop movements must be carefully synchronized to arrive in theater with their prepositioned or sealifted equipment. Special Air Missions (SAMs) use specially configured aircraft with extensive air-to-ground communications to support the President and Vice President of the United States, cabinet and congressional delegations, and other senior statesmen. These missions are time critical, often classified, and

frequently require operations at civilian airports. In addition to SAMs, Operational Support Airlift (OSA) provides wartime movement of priority cargo and passengers in support of operational requirements as well as peacetime training for new pilots and priority airlift of key decision makers.

Port of Debarkation (POD). The geographic point at which cargo or personnel are discharged. May be a seaport or aerial port of debarkation (SPOD or APOD). For unit requirements, it may or may not coincide with the destination.

Port of Embarkation (POE). The geographic point at which cargo or personnel depart. May be a seaport or aerial port of debarkation (SPOE or APOE). For unit and non-unit requirements, it may or may not coincide with the origin.

Ready Reserve Force (RRF). A U.S. Government-owned fleet of commercially designed deep-draft ships of various configurations and capabilities maintained to respond within four, five, 10 or 20 days to national emergency sealift requirements, particularly the movement of military unit equipment.

Sea Port of Debarkation (SPOD). The seaport at which cargo or personnel are discharged. For unit requirements, it may or may not coincide with the destination.

Sea Port of Embarkation (SPOE). The seaport at which cargo or personnel depart. For unit and non-unit requirements, it may or may not coincide with the origin.

Special Air Mission (SAM). SAM aircraft provide safe, secure, and reliable air transportation for the President, Vice-President, Cabinet, members of Congress, and other high-ranking American and foreign dignitaries. Flying worldwide, SAM aircraft represent the highest level of DV travel and must meet stringent schedule and protocol requirements under intense media scrutiny. The 89th Airlift Wing, Andrews AFB, MD, provides this service with 22 aircraft dedicated to the SAM and 21 helicopters supporting federal emergency requirements.

Special Assignment Airlift Mission (SAAM). Airlift missions, including JCS-directed/coordinated exercises, that require special consideration due to the number of passengers involved, weight or size of the cargo, urgency of movement, sensitivity, or other valid factors that preclude the use of channel airlift.

Strategic Brigade Airdrop. The airborne Division Ready Brigade (DRB) medium force package is the airdrop requirement for force structure planning.

Strategic Mobility. The capability to deploy and sustain military forces worldwide in support of national strategy.

Strategic Airlift. The airlift capability necessary to deploy and sustain military forces worldwide in support of national strategy.

Strategic Sealift. The afloat pre-positioning and ocean movement of military materiel in support of US and Allied forces or other government sponsored materiel deemed in the national interest. Strategic sealift includes government owned and commercially acquired shipping (US and foreign flag) and associated shipping services.

Supported Commander. The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other operational planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans, campaign plans, or operation orders in response to the requirements of the Chairman of the Joint Chiefs of Staff.

Supporting Commander. A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate.

Tanker/Airlift Control Element (TALCE). The Tanker Airlift Control Elements are mobile command and control units deployed to support both theater and strategic air mobility operations. An in-place TALCE allows air mobility operations where no tanker or airlift functions exist. TALCEs can perform command and control functions, provide access to communications equipment, serve as an aerial port, help coordinate maintenance efforts, provide aircraft and aircrew security, offers access to weather data, and also provide finance, contracting, and intelligence information.

Tanker Airlift Coordination Center (TACC). The Air Mobility Command direct reporting unit responsible for tasking and controlling operational missions for all activities involving forces supporting USTRANSCOM's global air mobility mission. The TACC is comprised of the following functions: current operations, command and control, logistics operations, aerial port operations, aeromedical evacuation, flight planning, diplomatic clearances, weather, and intelligence.

Tanker Task Force (TTF). "TTFs form in response to peacetime or contingency activities when concentrated air refueling support is critical to the mission and an established tanker presence does not exist. Examples are: fighter deployments, air mobility operations, intercontinental bomber operations, or training and exercise requirements."

Theater Area Army Command (TAACOM). Functions as the movements control agent within the theater. Receives theater movement priorities. Provides assistance and deployment training to CINC forces. Provides life support and command of personnel and equipment arriving at marshalling areas, holding sites, and staging areas. Establishes and operates Convoy Support Centers along main support routes. Supervises rail support operations. Provides emergency maintenance support at POEs and PODs. Serves as executive agent for host nation support. Determines deployment modes to/from POEs and PODs. Coordinates transportation for non-theater personnel. Arranges technical and diplomatic clearances. Provides movement control through the TAMCAs.

Theater Area Movement Control Agency (TAMCA). Subordinate element of the TAACOM, responsible for movement control at the Theater Army level. The TAMCA has subordinate movement control battalions, servicing areas outside the Corps area of responsibility. TAMCA units interface with the Corps Movement Control Center (MCC).

Time-Phased Force Deployment Data (TPFDD). The Joint Operation Planning and Execution system data base portion of an operation plan; it contains time-phased force data, non-unit related cargo and personnel data, and movement data for the operation plan, including:

- a. In-place units,
- b. Units to be deployed to support the operation plan with a priority indicating the desired sequence for their arrival at the port of debarkation,
- c. Routing of forces to be deployed,
- d. Movement data associated with deploying forces,
- e. Estimates of non-unit related cargo and personnel movements to be conducted concurrently with the deployment of forces.
- f. Estimate of transportation requirements that must be fulfilled by common user lift resources, as well as those requirements that can be fulfilled by user lift resources, as well as those requirements that can be fulfilled by assigned or attached transportation resources.

Traffic Management. The direction, control, and supervision of all functions incidental to the use of freight and passenger transportation services.

Transportation Coordinators-Automated Information for Movements System (TC-AIMS II). The computer hardware, software, procedures and other systems used by service transportation coordinators throughout the Joint Planning and Execution Community (JPEC) to automate the process of planning, organizing, coordinating, and controlling unit-related deployment activities and information supporting the overall development process. TC-AIMS II increases unit-level deployment readiness because there is a constantly updated database. It increases unit responsiveness by automating transportation documentation. It improves local command and control with ad hoc query and automatic reporting capabilities. It improves USTRANSCOM responsiveness because current, detailed requirements are available early in execution planning.

Unified Command. A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more Military Departments, and which is established and so designated by the President, through the

Secretary of Defense with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Also called unified combatant command.

Unit Identification Code (UIC). A six-character, alphanumeric code that identifies each Active, Reserve and National Guard unit of the Armed Forces.

Unit Line Number (ULN). A seven-character, alphanumeric field that uniquely describes a unit entry (line) in a Joint Operation Planning and Execution System time-phased force deployment database.

Unit Type Code (UTC). A five-character, alphanumeric code that uniquely identifies each type unit of the Armed Forces.

(Atkins and others, 1997)

Appendix B: Acronyms

AB Air Base
ACC Air Combat Command
ADANS AMC Deployment Analysis System
ADVON Advanced Echelon
AE Aeromedical Evacuation
AECC Aeromedical Evacuation Coordination Center
AEF Air Expeditionary Force
AEMS Aeromedical Evacuation Mission Support
AES Aeromedical Evacuation System
AF Air Force
AFB Air Force Base
AFFOR Air Force Forces
AFI Air Force Instruction
AFIS Automated Fleet Information System
AFIT Air Force Institute of Technology
AFIWC Air Force Information Warfare Center
AFMC Air Force Materiel Command
AFSOC Air Force Special Operations Command
AGE Aerospace Ground Equipment
ALC Air Logistics Center
ALP Advanced Logistics Program
AMC Air Mobility Command
AMC/CC Commander of AMC
AMCC Air Mobility Control Centers
AMCF Air Mobility Control Flight
AMCS Air Mobility Communications Squadrons
AMD Air Mobility Division
AME Air Mobility Element
AMMP Air Mobility Master Plan
AMOG Air Mobility Operations Group
AMOS Air Mobility Operations Squadron
AMS Air Mobility Squadron
AMSG Air Mobility Support Group
AMSS Air Mobility Support Squadron
AMW Air Mobility Wing
AMWC USAF Air Mobility Warfare Center
ANG Air National Guard
AOC Air Operations Center
AOR Area of Responsibility
APMF Aerial Port Mobility Flight
APOD Aerial Port of Debarkation
APOE Aerial Port of Embarkation

ASTS Aeromedical Staging Squadron
 ATACC Alternate Tanker Airlift Control Center
 ATC Air Traffic Control
 ATC Air Transportable Clinics
 ATH Air Transportable Hospitals
 ATO Air Tasking Order

• BOS Base Operating Support
 BSP Base Support Plans

• C2 Command and Control
 C2IPS Command and Control Information Processing System
 C4I Command, Control, Communications, Computers and Intelligence
 C4S Command, Control, Communications, and Computer Systems
 CAOC Combined Air Operations Center
 CADS Combat Aerial Delivery School
 CAF Combat Air Forces
 CAMPS Consolidated Air Mobility Planning System
 CAPS Consolidated Aerial Port System
 CAPS II Phase II of CAPS
 CAT Crisis Action Team
 CCATT Critical Care Aeromedical Transport Team
 CCT Combat Control Teams
 CDS Container Delivery System
 CE Civil Engineering
 CHOP Change Operational Control
 CINC Commanders in Chief
 CITS Combat Information Transport System
 CJCS Chairman, Joint Chiefs of Staff
 CLS Contractor Logistics Support
 COCOM Combatant Command
 CONOPS Concept of Operations
 CONUS Continental United States
 COMAFFOR Commander of Air Force Forces
 COMALF Commander of Airlift Forces

• COTS Commercial Off-The-Shelf
 CRT Contingency Response Team
 CSAF Chief of Staff of the Air Force

• CSAR Combat Search and Rescue
 CSS Crisis Support Staff
 CTAPS Contingency Theater Automated Planning System
 CTTF Contingency Tanker Task Force

DARPA Defense Advanced Projects Agency
 DDN Defense Data Network

DIRMOBFOR Director of Mobility Forces
DISA Defense Information Systems Agency
DITOPS Distributed Transportation Scheduling in Opis
DLA Defense Logistics Agency
DOC Designed Operational Capability
DoD Department of Defense
DPG Defense Planning Guidance
DRU Direct Reporting Unit
DSN Defense Switched Network
DTS Defense Transportation System
DV Distinguished Visitor

ECJMC EUCOM Joint Movement Center
EDI Electronic Data Interchange
ERS En Route System
EUCOM European Command
EVAC Evacuation

FAA Federal Aviation Administration
FOA Field Operating Agency
FOA Forward Operating Area
FOL Forward Operating Location
FSL Forward Supply Location
FY Fiscal Year
FYDP Future-Years Defense Program

GATES Global Air Transportation Execution System
GATM Global Air Traffic Management
GCCS Global Command and Control System
GCSS Global Combat Supply System
GDSS Global Decision Support System
GPS Global Positioning System
GRL Global Reach Laydown
GRLP Global Reach Laydown Package
GS General Service
GSA General Services Administration
GTN Global Transportation Network

HMMWV High Mobility Multi Wheeled Vehicles
HQ Headquarters
HQ USAF Headquarters United States Air Force

ICAO International Civil Aviation Organization
IG Inspector General

ISDN Integrated Services Digital Network
ITAS Intratheater Airlift Scheduler
ITS Information Transport Systems
ITV In-transit Visibility

JCS Joint Chiefs of Staff
JDISS Joint Deployable Intelligence Support System
JFACC Joint Forces Air Component Commander
JFAST Joint Flow and Analysis System for Transportation
JMC Joint Movement Center
JMCC Joint Movement Control Center
JMPS Joint Mission Planning System
JOLT Joint Office of Logistics Technology
JOSAC Joint Operational Support Airlift Center
JRTC Joint Readiness Training Center
JTB Joint Transportation Board
JTF Joint Task Force
JULLS Joint Universal Lessons Learned System
JV Joint Vision

LAN Local Area Network
LCOM Logistics Composite Model
LNO Liaison Officer
LGRC Logistics Readiness Center
MAF Mobile Aerial Port Flights

MAF Mobility Air Forces
MAJCOM Major Command
MANPER-B Manpower/Personnel Module - Base Level
MARC Mobility Air Reporting and Communications
MCC Mobility Command Center
MGRLT Medical Global Reach Laydown Team
MHE Materials Handling Equipment
MOG Maximum Aircraft on Ground
MOOTW Military Operations Other Than War
MPF/D Million Pounds of Fuel per Day
MPM/D Million Passenger Miles per Day
MRC Major Regional Contingency
MRS BURU Mobility Requirements Study Bottom-Up Review Update
MRT Maintenance Recovery Team
MSC Military Sealift Command
MST Mission Support Team

NAF Numbered Air Force
NASA National Aeronautics and Space Administration

NAVCC Naval Component Commander
NATO North Atlantic Treaty Organization
NCA National Command Authorities
NCO Noncommissioned Officer
NDTA National Defense Transportation Association
NMS National Military Strategy

OCONUS Outside of Continental United States
OPCON Operations Control
OPLAN Operations PLAN
ORD Operational Requirements Document
ORI Operational Readiness Inspection
OSA Operational Support Airlift
OSD Office of the Secretary of Defense

PAA Primary Aircraft Authorizations
PACAF Pacific Air Forces
PACOM Pacific Command
PME Professional Military Education
PMPS Portable Mission Planning System
POL Petroleum, Oils, and Lubricants
POM Program Objective Memorandum

QCOA Quick Course of Action
QDR Quadrennial Defense Review
R&M Reliability and Maintainability
RDT&E Research, Development, Testing, and Evaluation
RFI Requests for Information
RIBS Readiness in Base Services
RAMCC Regional Air Mobility Control Center
RMA Revolution in Military Affairs
RM&D Reliability, Maintainability and Deployability

SAAM Special Assignment Airlift Mission
SAES Strategic Aeromedical Evacuation System
SAFMA Strategic Airlift Force Mix Analysis
SAM Special Air Mission
SAMs Surface-to-Air Missiles
SATCOM Satellite Communications
SBA Strategic Brigade Airdrop
SECDEF Secretary of Defense
SES Senior Executive Service
SF Security Forces
SIPRNET Secret Internet Protocol Router Network
SITREP Situation Report

SKE Station Keeping Equipment
SORTS Status of Resources and Training System
SP Security Police
STRATCOM Strategic Command

TACC Tanker Airlift Control Center
TAES Theater Aeromedical Evacuation System
TALCE Tanker Airlift Control Element
TALO Theater Airlift Liaison Officer
TAMIS Tanker Airlift Mobility Integrated System
TCMCC Transportation Command Mobility Control Center
TDY Temporary Duty
TMO Traffic Management Office
TPFDD Time-Phased Force Deployment Data
TPFDL Time Phased Force Deployment List
TRANSCOM Transportation Command
TSSAS TPFDD Sizing, Sourcing, and Analysis System
TTF Tanker Task Force
TWCF Transportation Working Capital Fund

US United States
USAF United States Air Force
USAFE United States Air Forces in Europe
USCENTCOM United States Central Command
USEUCOM United States European Command
USPACOM United States Pacific Command
USSOCOM United States Special Operations Command
USSOUTHCOM United States Southern Command
USSTRATCOM United States Strategic Command
USTRANSCOM United States Transportation Command
UTC Unit Type Code
UTE Utilization Rate

VTC Video Teleconferencing

WAN Wide Area Network
WBE Wide-Body Equivalents
WBEL Wide-Body Elevator Loader
WCDO War Consumables Distribution Objective
WRM War Readiness Materiel

Bibliography

- 1998 *Air Mobility Master Plan (AMMP 98)*. Air Mobility Command. n. pag.
http://mobility.ramstein.af.mil/~621AMSG/unit_p~1a.htm. 24 October 1997
- 1997 *Air Mobility Master Plan (AMMP 97)*. Air Mobility Command. Scott AFB, IL. 1996.
- AFDD 2: Organization and Employment of Aerospace Power*. Department of the Air Force. 28 September 1998.
- AFDD 2-6: Air Mobility*. Department of the Air Force. Draft. October 1998.
- AMC En Route Support Force Modules Needed*. Air Mobility Command. AMC/DOP Sequence Number 01039, n. pag. <http://amc.scott.af.mil/do/dop/julls/>, December 1992.
- Atkins, Steven M. and others. *The Global Mobility Toolbook*. Air University Research Project. http://www-cgsc.army.mil/usaf/AMC_Toolbook/Library_Paper.htm#Atkins. March 1997 (AU/ACSC/0125/97-03).
- BOS Not Planned*. Air Mobility Command. AMC/DOP Sequence Number 1232, n. pag. <http://amc.scott.af.mil/do/dop/julls/>, September 94
- Bossert, Philip A., Jr. *Strategic Airlift Inefficiencies: From Desert Shield To Vigilant Warrior*. U.S. Army Command and General Staff College. Fort Leavenworth, Kansas. 1995 (19950927127).
- Bowersox, Donald J. *Logistics-The Route to Quality*. Plenary paper presented to Eighth National Conference of Logistics. June, 1988.
- Coolidge, Charles, H. *DIRMOBFOR, Operation QUICK LIFT After Action Report Input, Parts 1- 3*. Air Mobility Command. AMC/DOP Sequence Number 1350-1352, n. pag. <http://amc.scott.af.mil/do/dop/julls/>. August 95
- , *Saturation of Airspace/Airfield Management*. Air Mobility Command. AMC/DOP Sequence Number 01794, n. pag. <http://amc.scott.af.mil/do/dop/julls/>. February 96.
- , *USTRANSCOM J3/J4*. Address to DIRMOBFOR Students. Hurlburt Field, FL. February 1999.
- Cordell, Richard A., *Should USTRANSCOM Own it All?* Air Force Institute of Technology. AFIT/GMO/LAS/97Y-2. Wright Patterson AFB, Ohio. May 1997.

- Devereaux, Lt Col Richard T. *Theater Airlift Management and Control: Should We Turn Back the Clock to Be Read For Tomorrow?* Maxwell AFB AL. AU Press. 1994.
- Dubyak, Wilixam C. *Strategic Airlift: A Casualty of Divided Authority*. Naval War College. Newport, RI. April 17 1995 (19950417026).
- Gallion, Donald. *TACC's Partner in Europe*. Air Mobility Command. Address to DIRMBOFOR Students, Hurlburt Field, FL. February 1999.
- General Accounting Office (GAO). *Defense Transportation: Streamlining of the U.S. Transportation Command is Needed*. Washington D.C. February 1996.
- General Framework Agreement for Peace in Bosnia and Herzegovina*. North Atlantic Treaty Organization (NATO). n. pag. <http://hq.nato.int/ifor/gfa/gfa-fm.htm>. 10 Jun 1999.
- Hogle, Walter S., Jr., *Commander's Perspective*. Headquarters Air Mobility Command. Address to DIRMBOFOR Students, Hurlburt Field, FL. February 1999.
- Haiti Background Notes*. U.S. Department of State. March 1998, n. pag. http://www.state.gov/www/background_notes/haiti_0398_bgn.htm.
- Johnston, Mark. *Tanker airlift Control Center Briefing*. Air Mobility Command, Electronic Briefing. January 1999.
- Joint Publication 1: Joint Warfare of the Armed Forces of the United States Department of Defense*. http://www.dtic.mil/doctrine/jel/new_pubs/jp1.pdf. 10 January 1995.
- Joint Publication 1-02: Dictionary of Military and Associated Terms*. Department of Defense. Washington D.C. 6 April 1999.
- McNabb, Duncan J. Air Mobility Command. *Tanker airlift Control Center Briefing*. Address to DIRMBOFOR Students, Hurlburt Field, FL. February 1999.
- Rapid Establishment of AMC En Route Support Bases is Critical*. Air Mobility Command. AMC/DOP Sequence Number 01038, n. pag. [#](http://amc.scott.af.mil/do/dop/julls/JULLS), December 1992.
- Shea, Thomas M. *Role, Organization, and Functions of Joint Movement Control in Reception, Staging, Onward Movement and Integration*. Army War College. Carlisle Barracks, Pennsylvania. April 1996.
- Title 10 United States Code (USC): Commanders of Combatant Commands: Assignment; Powers and Duties*. n. pag. <http://www4.law.cornell.edu/uscode/10/164.html>. Sec. 164. January 1998

TPFDD Pulls are Missing AK Legs in Some Cases. Air Mobility Command. AMC/DOP Sequence Number 01792, n. pag. <http://amc.scott.af.mil/do/dop/julls/>. October 1996.

Trans-loading Strategic Airlift Requirements and ITV. Air Mobility Command. AMC/DOP Sequence Number 1795, n. pag. <http://amc.scott.af.mil/do/dop/julls/>, February 1996.

Vita

Major Philip M. Calvano was born on 26 January 1964, in Yeadon, Pennsylvania. He attended the Pennsylvania State University, graduating in 1985 with a Bachelor of Science in Business Logistics. After receiving his commission through the Penn State Reserve Officer Training Corps on 4 January 1986, he was assigned to the 438th Military Airlift Wing, McGuire AFB, NJ, as a Logistics Planner. Follow-on logistics planning assignments included 21 AF, McGuire AFB, NJ and the Military Airlift Command Inspector General. During the transition Military Airlift Command's transition to Air Mobility Command, he remained as the Inspector General Executive Officer and in 1994 completed a Master of Science Degree in Acquisition and Procurement Management from Webster University.

From 1994 to 1998 Major Calvano assigned to the 616th Regional Planning Flight, 616th Regional Support Group, and Headquarters 16th Air Force, Aviano Air Base, Italy as both a logistics planner and an air transportation officer. In 1998 he entered AMC's Advanced Study of Air Mobility (ASAM).

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13. ABSTRACT (Maximum 200 words) This paper addresses how to strengthen mobility planning and execution in the Joint Task Force (JTF). It proposes a JTF J3/J4 directorate that manages all assigned and attached Defense Transportation System (DTS) mobility forces as well as those theater assigned transportation forces. The proposed JTF J3/J4 combines the current Director of Mobility Forces (DIRMOBFOR:AMC), Navy Component Commander (NAVCC:MSC) and Military Traffic Management (MTMC) Element with the Joint Movement Center (JMC) from the JTF J4 staff. Examples are provided to expand on JTF J3/J4 decision making and their applicability to the theater CINC's staff. Briefly discussed is the impact of a U.S. Transportation Command (USTRANSCOM) expanded Global Reach Laydown Package (GRLP) which pre-positions airlift, sealift and surface transportation support requirements in order to develop a flexible en route structure. Integrating a JTF J3/J4 and a theater CINC J3/J4 provides an excellent opportunity to simplify our wartime logistics infrastructure. A simplified logistics infrastructure increases the chances for operational success and increases our global efficiency.				
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